

Rock Products

DEVOTED TO
Concrete and Manufactured
Building Materials



Vol. VIII.

CHICAGO, ILL., OCTOBER 22, 1908.

No. 4.

CAROLINA PORTLAND CEMENT COMPANY
We are the largest distributors of Portland Cement, Lime Plaster, Fire-brick and General Building Material in the Southern States, and have stocks of Standard Brands at all of the Atlantic and Gulf Seaports, and at our interior mills and warehouses, for prompt and economical distribution to all Southern territory. Write for our delivered prices anywhere. Also Southern agents for the "Dehydratine" waterproofing material. "Universal," "Aeme" and "Electrod" Brands Ready Roofing. Get our prices.
Charleston, S. C. Birmingham, Ala. Atlanta, Ga. New Orleans, La.

DEXTER Portland Cement
THE NEW STANDARD
Sole Agents SAMUEL H. FRENCH & CO. Philadelphia



UNION MINING COMPANY

Manufacturers of the Celebrated

MOUNT SAVAGE
FIRE BRICK
GOVERNMENT STANDARD

DEVOYE a special department to the manufacture of Brick particularly adapted both physically and chemically to

Lime Kiln and
Cement Kiln
Construction

Large stock carried. Prompt shipments made. Write for quotations on Standard and Special shapes, to

UNION MINING CO.
Mount Savage, Md.

CAPACITY, 60,000 PER DAY.
ESTABLISHED 1841.

Digging Cement Rock Without Blasting

for less than 12c per cubic yard. That's what the Burt Portland Cement Co., Bellevue, Mich., are doing with a Vulcan Steam Shovel.

ASK US TO SHOW YOU.

The Vulcan Steam Shovel Co. 129 VULCAN PLACE
TOLEDO, OHIO

Phoenix Portland Cement UNEXCELLED FOR
Manufactured by
PHOENIX CEMENT CO. NAZARETH, PA.
Sole Selling Agent WM. G. HARTRANFT CEMENT CO.,
Real Estate Trust Building PHILADELPHIA, PENNSYLVANIA

MEACHAM & WRIGHT COMPANY
CEMENT

CHICAGO

Ottawa Silica Co.'s Washed White Flint Sand

Is used for sawing stone in more than a dozen states. Cuts more and lasts longer than any other sand on the market. Unexcelled for Roofing, Facing Cement Blocks, White Plaster, etc. Freight rates and prices on application.

OTTAWA SILICA CO. Ottawa, Ill.

"RELIANCE" BELT ABSOLUTELY BEST
Chicago Belting Company
MAKERS

FOR GRIFFEN MILLS
FOR TUBE MILLS
FOR BALL MILLS

12-22 South Green Street

SEND US YOUR SPECIFICATIONS

CHICAGO, ILLINOIS

ALMA
Portland Cement

STANDARD BRAND
OF
MIDDLE WEST.

Specially adapted to all Reinforced Concrete and High-Class Work.

Alma Cement Co.
WELLSTON, OHIO.

Special Features in This Number.

Two Great Concrete and Steel Bridges at Nashville.
Description of the O'Laughlin Quarries at Racine.
The Live Stock Pavilion of the Kentucky State Fair.
Third Deep Waterway Convention Held at Chicago.
Statistics of Actual Building Operations Show Substantial Increase in all the Principal Cities.

"GOLD MEDAL"

DYNAMITE

MANUFACTURED BY

Illinois Powder Mfg. Co.

Security Bldg. St. Louis - Missouri

BLASTING POWDER

AND

BLASTING SUPPLIES

Quick Shipments Lowest Prices



A PERFECT RECORD FOR TEN YEARS
IN ALL KINDS OF CONCRETE WORK

Send for 72 page Illustrated Catalog No. 25

MARQUETTE CEMENT MANUFACTURING CO.

Marquette Building, Chicago





Peninsular Portland Cement

Acknowledged by competent Architects and Engineers to be unequalled for fineness, wonderful development of strength and sand carrying capacity.

"THE BEST IS THE CHEAPEST"

Address
Peninsular Portland Cement Co.
Jackson, Michigan

Red Ring Portland Cement



Manufacturers : Sales Office Liggett Bldg. St. Louis

"LEHIGH" PORTLAND CEMENT

High Tensile Strength, Finely Ground, Light and Uniform in Color.
MANUFACTURED BY THE



Lehigh Portland
Cement Co.
ALLENTOWN, PA.

Western Office:
725 Rockefeller Bldg.,
CLEVELAND, OHIO

Capacity, 8,000,000 Yearly.

Write for Catalogue.



QUALITY THEN
QUANTITY

—OUR MOTTO—

WRITE FOR PRICES

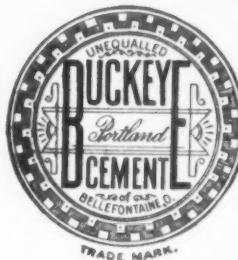
The Fredonia Portland Cement Co.

FREDONIA, KANSAS

Buckeye Portland Cement Co.

ESTABLISHED 1888.

Manufacturers of the celebrated
"Buckeye" brand of



Portland Cement

"Buckeye" has stood the wear and tear in many important places for the past fifteen years and under the new process of manufacture is now better than ever. :: :: :: :: ::

Bellefontaine, Ohio.

ONE GRADE—ONE BRAND



Alpha Portland Cement

The Recognized Standard
American Brand

General Offices: EASTON, PA.

SALES OFFICES:

German National Bk. Bldg., PITTSBURGH. Builders Exchange, BUFFALO
Builders Exchange, BALTIMORE. Board of Trade Bldg., BOSTON
Marquette Building, CHICAGO. St. Paul Bldg., NEW YORK.
Harrison Building, PHILADELPHIA. Nat'l Bank Bldg., SAVANNAH, GA.



CHICAGO "AA"

1,000,000 Barrels Annually

THE LEADING SIDEWALK CEMENT

Factory at Oglesby, near La Salle, Ill., on
C. M. & St. P. R. R., C. B. & Q. R. R., I. C. R. R.,
and C. R. I. & P. R. R., by Switch.

WE MAKE ONE BRAND ONLY. THE BEST THAT CAN BE MADE.

Used in the large bridges at Thebes and Kankakee, Illinois, Hennepin Canal,
Government Post Offices, Locks and Bridges, Chicago Tunnels; and
by principal Railroads, Engineers, Architects, Contractors and
Block Manufacturers.

CHICAGO PORTLAND CEMENT CO.

No. 108 La Salle Street, CHICAGO, ILL.

HYDRATED PORTLAND LIME



IS IDEAL FOR

**Waterproofing
Concrete Blocks**

SAVES MONEY. TRY IT.

FOR INFORMATION AND PRICES, WRITE

CHICKAMAUGA CEMENT CO.,

Sole Manufacturers.

CHATTANOOGA, TENNESSEE

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has
croo
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two
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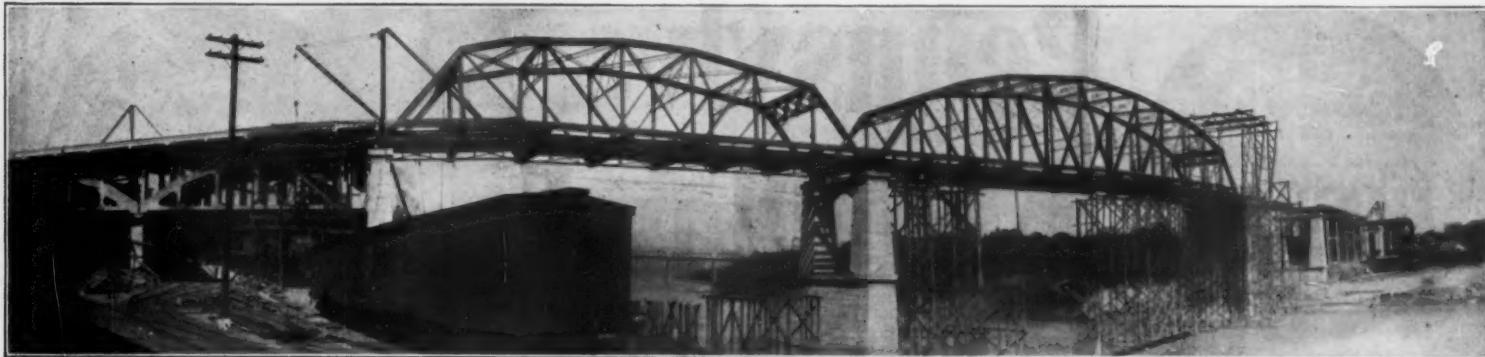
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Concrete and Manufactured
Building Materials

Volume VIII.

CHICAGO, ILL., OCTOBER 22, 1908.

Number 4.



SPARKMAN STREET BRIDGE OVER THE CUMBERLAND AT NASHVILLE, TENN.

HEAVY ENGINEERING WORK AT NASHVILLE.

Two Splendid Concrete and Steel Bridges Spanning the Cumberland Will Soon Connect the Two Sections of Greater Nashville.

Nashville, the capital city of Tennessee, is one of the most rapidly growing cities of the South. Its population has increased 100 per cent since 1900. It has spread out for miles upon the original site and crossed over to the opposite side of the Cumberland River, and as a result two splendid municipal bridges spanning the Cumberland were commenced about two years ago and the first is rapidly approaching completion, while the second will be the work of next season. The efficiency of an old cable bridge was sufficient for its day and time, but as the city grew and the traffic became heavier in proportion, the citizens clamored for a more commodious structure, and like everything else, for which the citizens of Nashville clamor, they get it. It is a 50-foot structure of steel, with paved streets and a walk on either side,

but as time passed this became inadequate for the needs of growing and greater Nashville, and the County Court, in answer to the general demand, adopted the resolutions which led to the submitting of the bond proposition to the citizens of the county, which proposition carried. As a result of this and the sale of bonds, two commodious bridges, one at Sparkman Street in South Nashville and one at Jefferson Street in North Nashville, will soon span the Cumberland for the convenience of the traveling public.

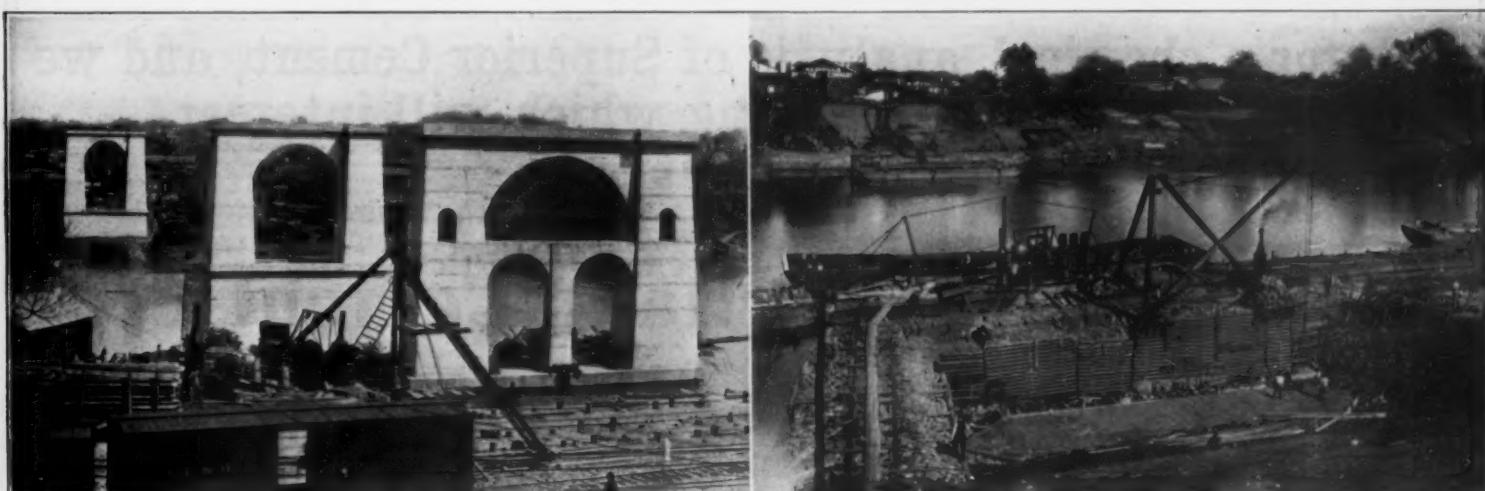
The sale of \$800,000 worth of county bridge bonds was made on July 29, 1907, to Foster & Creighton, general contractors, of Nashville, Tenn.

Work on both of these structures is progressing rapidly, and Mr. Creighton informs ROCK PRODUCTS

that the Sparkman Street bridge will be completed in June, 1909, and the Jefferson Street bridge in October, 1909. We present to our readers illustrations of the Sparkman Street bridge, as it appears today, and also several views of the same during the course of its construction. These bridges are of the most modern construction and will be two of the heaviest and handsomest bridges in the South.

The approaches are built of reinforced concrete with filling work, some of which will be solid fills. Reinforced concrete construction is considered the most permanent class of modern engineering and now is accepted by the leading engineers everywhere. No expense was spared to get the very best results obtain-

(Continued on Page 37)



COMPLETED PIERS OF REINFORCED CONCRETE

LAYING CONCRETE WITHIN COFFER DAM

Can Be Used With Absolute Safety



Hundreds of users have
testified to the excellent
results obtained.

Manufactured and Guaranteed by

Omega Portland Cement Company

Jonesville, Michigan

**Strength
Uniformity
Satisfaction**

A Dependable Portland Cement

An Unblemished Record for
six years speaks for itself

Wolverine Portland Cement Company

Coldwater, Michigan

C. H. WOOD, Agent, Chamber of Commerce Building, Chicago



**Pennsylvania
Portland
Stands for Quality**



**Use SUPERIOR PORTLAND CEMENT in your concrete
work, and be assured of satisfactory results.**

**Ask for a chemical analysis of Superior Cement, and we
will show you something which will interest
every cement user.**

The Superior Portland Cement Co.

Works:

Superior, Lawrence Co., Ohio.
Detroit, Toledo & Ironton Ry., within
switching district of
C. & O. and N. & W. Rys.

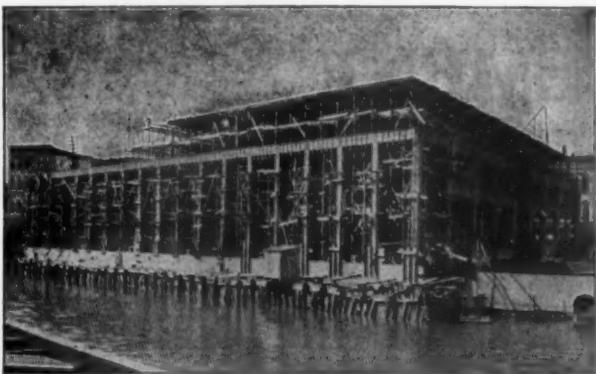
General Offices and Sales Dept.,
Charleston, W. Va.



Medusa Water-Proof Compound

Makes all Concrete Watertight

The foundations and floor in basement, all of cement, in the Bostwick-Braun warehouse, Toledo, O., here illustrated, contain Medusa. Write for pamphlet describing its use.



Write for samples of our Pure White Portland Cement.
Do not accept a substitute, as there are many adulterated compounds on the market.

Sandusky Portland Cement Co.
SANDUSKY, OHIO



**Strength
Durability
Permanence**

Not only laboratory tests, but results in actual work prove the high grade quality of

**Northampton
Portland Cement**

Especially adapted for Cement Blocks, Sidewalks and all forms of concrete and re-inforced concrete construction.

Northampton Portland Cement Co.

Main Office and Works

Stockertown, Pa.

Tell 'em you saw it in ROCK PRODUCTS.

The Ironton Portland Cement Co.

Manufacturers of the
Celebrated Limestone Brand of Portland Cement

Used by the Railroads in Kentucky, Ohio, West Virginia, and Virginia during the past five years.
Cement as finely ground as any on the market.
Guaranteed to pass all the standard specifications.

Plant located at Ironton, O., within easy access to seven States, namely, Ohio, Indiana, Kentucky, West Virginia, Virginia, Tennessee and North Carolina.
Shipments via the N. & W. Ry., C. & O. Ry., C. H. & D. Ry., D. T. & I. Ry., or Ohio River.

Write for Prices



The Ironton Portland Cement Co.
Ironton, Ohio

Flint Pebbles and Buhr Stone
Linings.

French Buhr Mill Stones,
Solids and Built.

J. M. Charles,
Sole Agent.

59 Pearl St., NEW YORK, N. Y.

Bolting Cloths, Dufour Swiss
Silk, Fine Wire Cloth.

Mixing and Sifting
Machinery.



SEA WALL—ONE MILE LONG
Jacksonville, Florida
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Portland Cement**
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Sole Agents

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The Quality that Never Fails

SUNFLOWER PORTLAND CEMENT

Three Great Plants, at IOLA and INDEPENDENCE, KANSAS, making Perfect Cement, with Unsurpassed Shipping Facilities, Guarantee Prompt Service.

YOUR CEMENT NEEDS CAN BE SUPPLIED EFFICIENTLY

Daily Capacity of 8,000 Barrels. Write today to

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General Sales Office: 811 Commerce Building, KANSAS CITY, MO.

CAPACITY
700,000
BARRELS
ANNUALLY
—
OFFICE
ALLENTOWN, PA.



STANDARD
SPECIFICA-
TIONS
GUARANTEED

Newaygo Portland Cement Co.

Sales Office: Michigan Trust Building

GRAND RAPIDS, MICH.

Write us for prices. Send us your orders.

NEW JERSEY LIME CO.

Hamburg
Finishing
Lime



Sussex
Hydrated
Lime

Kilns: { Hamburg, N. J.
{ Mc Afee, N. J. General Office, Hamburg, N. J.

“TAYLOR MADE”
Trade TISCO Mark
MANGANESE STEEL

FOR

COMBINED HARDNESS, TOUGHNESS
AND HIGH TENSILE STRENGTH

— ITS APPLICATIONS —

Crusher Linings, Jaw Plates, Cheek Plates, Cones,
Concaves.

Power Conveying Parts,—Gears, Sprockets, Sheaves,
Detachable Link Belting.

Product Conveying Parts—Chutes, Etc.

The “Panama” Two-Part Dipper Tooth for Steam
Shovels and Dredges.

“TAYLOR-MADE”

Castings for parts that receive the shock—which MUST be
machined.

“THE REASONS IN THE STEEL.”

It will pay you to review our complete Catalog and literature—Your
request will have very prompt attention—**WRITE US TODAY.**

TAYLOR IRON and STEEL CO.

High Bridge, N. J.

"Edison's" 5 Strong Points

COLOR
FINENESS
UNIFORMITY
SOUNDNESS
SAND CARRYING CAPACITY



Look for Trade Mark on Every Bag

There is no cement on the market with more points in its favor than

EDISON PORTLAND CEMENT

Do not write for a "Laboratory sample," but test Edison Cement going into work anywhere, or from the dealer's yard. The result is the same—**absolute uniformity.**

Every barrel of Edison Cement is guaranteed to pass standard specifications and beat "standard" by 10 per cent.

85% thru 200 98% thru 100

THE EDISON PORTLAND CEMENT COMPANY

SALES OFFICES

NEW YORK: St. James Building
PHILADELPHIA: Arcade Building

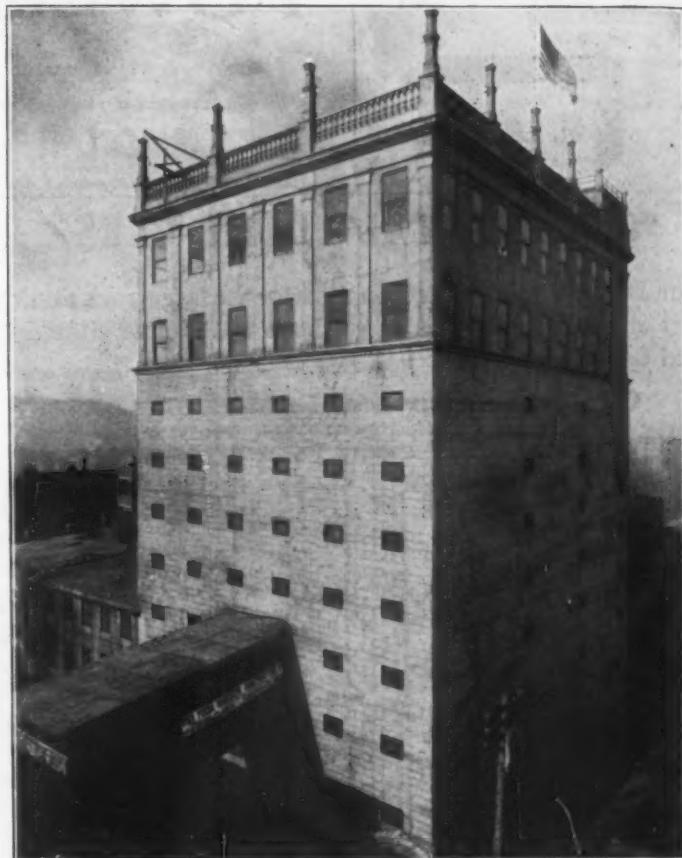
PITTSBURG: Machesney Building
BOSTON: Post Office Sq. Building

NEWARK: Union Building
SAVANNAH: National Bank Building



Kosmos Portland Cement—is the product of a model plant using high grade raw materials and under the directions of a staff of experienced Cement Engineers

It is guaranteed the equal of any American Brand of Portland Cement and will be found to run uniform in color, strength and fineness



ANTHONY KUNZ, Jr., Cincinnati, O. FERRO CONCRETE CONSTRUCTION Co., Cincinnati, O.
Roth Building, Cincinnati, O., in which "Kosmos" Portland Cement was used exclusively.



SALES OFFICE
614 and 615 Paul Jones Bldg.
LOUISVILLE, KY.

MILL
KOSMOSDALE, KY.



Tell 'em you saw it in ROCK PRODUCTS.

Wilful Waste Makes Woeful Want

If you should like to know how we can save you money by re-vitalizing your set plaster-of-paris, drop us a line, or, if you should like to know how to make money by operating a territory on a royalty basis we will be glad to furnish full particulars upon request.

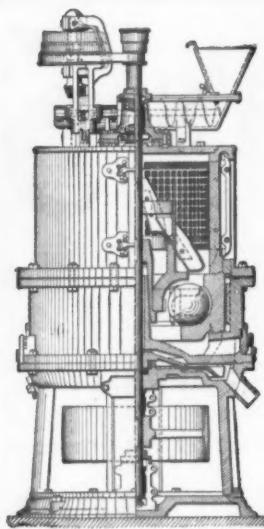
We operate under U. S. patents and have patents in all of the principal foreign countries.

A partial list of our products are:

CALCINED PLASTER
HARD-WALL PLASTER
PARTITION BLOCK
CEMENT STONE
PATENT BLACKBOARD
WHITE-COAT FINISH
(Any Tint)

Eastwick Plaster Co. East Falls, Philadelphia, Pa.

New York City Washington, D. C.
Trenton, N. J.



Fuller - Lehigh Pulverizer Mill

The Best Pulverizing Mill
Manufactured

Exhaustive tests in all departments, in competition with the most approved grinding machines in use, have demonstrated the superiority of our machine.

OUR CLAIMS:

Greater Output
Better Fineness
Fewer Repairs
Dustless

Few extracts from letters received from users

"With the four we are now ordering we will have in use 16 Fuller Mills in all, and I think you can hope to get orders from us within the very near future for quite as many more."

"We have to say for your Fuller Mill that it is unqualifiedly the best grinding device we have ever tried on our lime rock and eminently satisfactory to us."

"We are pulverizing with one Ball Mill and four Fuller Mills sufficient raw material to produce nearly 1200 barrels of clinkers per day, which record I believe can not be approached by any other mill on the market."

If interested, write us for further information

Lehigh Car, Wheel & Axle Works

Main Office—Catasauqua, Pa., U. S. A.

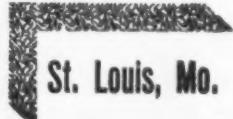
New York, 111 Broadway

Kansas City, Mo., Scarritt Building

CHARLES W. GOETZ LIME & CEMENT CO.

MANUFACTURERS OF AND DEALERS IN

Glenwood Lime, Banner
Brand Louisville Cement,
Portland Cements and
Building Materials.

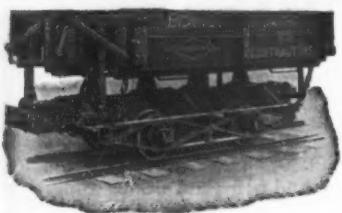


FOWLER & PAY,

**Brown Hydraulic Lime, Austin Hydraulic
Cement, Jasper Wall Plaster, Brick, Stone.**

CEMENT WORKS: Austin, Minn.
PLASTER MILL: Ft. Dodge, Iowa.
WAREHOUSE: Minnesota Transfer.

MANKATO, MINN.



"CONTINENTAL" DUMP CARS

Our Dump Cars are used on most of the large rock and dirt moving operations throughout the United States and Canada.

Continental Car and Equipment Co.
Works: Highland Park, Louisville, Ky.

New York, 17 Battery Place



Farnam "Cheshire" Lime Co.

OF CHESHIRE, MASS.
MANUFACTURERS OF THE

Celebrated Cheshire "Finishing" Lime

Well known throughout New York and the Eastern States as the finest finishing lime manufactured. The special feature of this lime is its quick and even slaking, thus preventing any cracking or checking when put on the wall. It is the best lime used in the country today for all

HIGH GRADE FINISHING WORK

Selling Department, 39 Cortlandt St., N. Y., C. J. CURTIN, Pres't.

PATENT SOAPSTONE FINISH

PLAIN AND IN COLORS FOR WALLS AND CEILINGS

Patent Soapstone Mortar

Prepared in any Color for Laying Pressed and Enamelled Brick, Stone Fronts, Terra Cotta, Chimneys, Fire Places, Etc.

The Dodge Blackboard Material or Artificial Slate.

The Potter Blackboard Material.

**SOAPSTONE MICA. CONCRETE DRESSING.
CRUSHED, GROUND AND BOLTED SOAPSTONE.**

AMERICAN SOAPSTONE FINISH CO.

DODGE, Proprietor. CHESTER DEPOT, VT.

Tell 'em you saw it in ROCK PRODUCTS.



FIGURE IT OUT

DEALERS sell Amatite Roofing with their lead pencils. They can prove every time to the hesitating customer that a roofing of Amatite's great weight, at Amatite's low price, with Amatite's "no paint" mineral surface is cheaper in the beginning and cheaper in the end than any kind of painted roofing.

It's a matter of cold figures—cold facts.

The dealer doesn't have to argue; he only fills out an estimate and lays it before the doubter side by side with the estimate for the

roofing that is going to demand painting every year or two and won't last as long as Amatite even then.

Amatite needs no painting.

The mineral surface is better—more permanent than many coats of paint and more satisfactory. The dealer that likes to "stand behind his goods" will be proud of the service Amatite gives. And we, in turn, "stand behind" the dealer, with the biggest advertising campaign in the roofing trade.

Barrett Manufacturing Company

New York	Chicago	Philadelphia	Boston	St. Louis	Cleveland	Pittsburg
Cincinnati		Kansas City	Minneapolis	New Orleans	London, Eng.	



Red, Brown, Buff and Black



MORTAR COLORS

The Strongest and
Most Economical
in the Market.



Our Metallic Paints and Mortar Colors are unsurpassed in strength, fineness, and body, durability, covering power and permanency of color. Write for samples and quotations.

CHATTANOOGA PAINT CO. Chattanooga, Tennessee.

TWENTY LONG YEARS

of time and weather tried out Ricketson's famous "Red Brick" Brand.

COLOR

for Mortar, Brick, Cement, Stone, etc., and proved it to be absolutely permanent. Red, Brown, Buff, Purple and Black.

Ricketson Mineral Paint Works MILWAUKEE, WISCONSIN



ANHYDROL

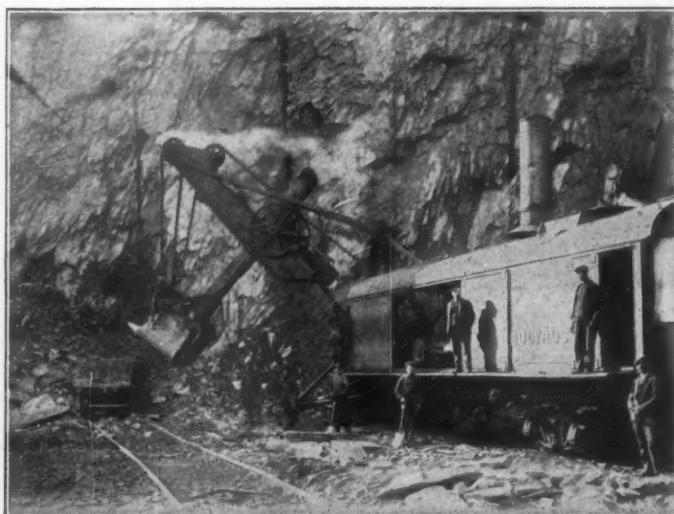


Successful waterproofing depends entirely on the method of having the protective material penetrate the concrete and fill up the pores, not merely on the surface as a skin, but for some distance into the mass.

ANHYDROL waterproofs and damp-proofs any concrete or cement construction, mass or rock, brick or mortar joints. All porous stone work, clay or cement tile, concrete or concrete slab roofs, floors, wall, cellars, etc.

ANHYDROL is also manufactured with all coloring particles removed so that it leaves cement surfaces original color.

The North Jersey Paint Company 925 ST. JAMES BLDG. - - - - NEW YORK CITY



95-B Bucyrus Steam Shovel

In
CEMENT ROCK

We Build Steam Shovels for
Quarry Stripping, Cement Mining
or Loading Crushed Stone

THE BUCYRUS CO.
SOUTH MILWAUKEE, WIS.

"INDEPENDENT DYNAMITE—
Always consistent in price and quality."

INDEPENDENT POWDER
COMPANY OF MISSOURI
HOME OFFICE - JOPLIN - MO.
FACTORY - JOPLIN - MO.
GENERAL SALES OFFICE -
PIERCE BLDG. SUITE 655-67 - ST. LOUIS - MO.



PRODUCER GAS FIRED LIME KILNS

Some of the advantages of Producer Gas Fired Lime Kilns are:

**LARGER OUTPUT
CLEANER LIME
LESS FUEL
LESS LABOR**

If interested write for special circular.

R. D. Wood & Co., Philadelphia, Pa.

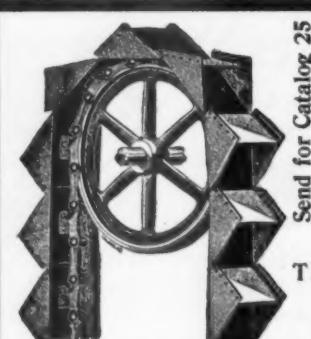
**A large cement
company writes:**

"The large gears you made for our tube mills have proven entirely satisfactory, and we have had no trouble with them. One has been running eighteen and the other two more, than a year. In the old days when we were using ordinary cast tooth gears, we used from one to three a year."

Ask for the Nuttall "Red Book"

If in a hurry, wire us

R. D. NUTTALL COMPANY
PITTSBURG, PA.



**THE GENERAL CRUSHED
STONE CO.,**
So. Bethlehem, Pennsylvania,

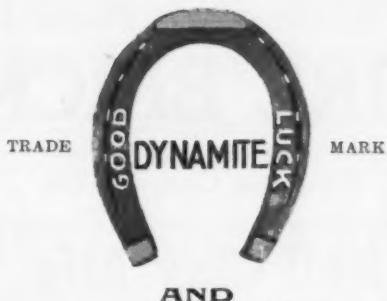
have been using one of our Common Sense Elevators for six years—
capacity 400 tons an hour.

THE C. O. BARTLETT & SNOW CO. CLEVELAND,
OHIO.

Burton Powder Co.

MANUFACTURERS OF

Good Luck Dynamite



Blasting Powder

Dynamite Factory:

New Castle, Pa.

Powder Mill:

Quaker Falls, Pa.

Main Office, PITTSBURGH, PA.



AETNA DYNAMITE

The Standard Explosive
Always Full Strength
Always the Same

Send for new 66 page Blasting Manual

MADE BY

THE AETNA POWDER COMPANY
143 DEARBORN STREET, CHICAGO

Bank of Commerce Building
ST. LOUIS, MO.

CHATTANOOGA, TENN.
XENIA, OHIO

Woodward Building
BIRMINGHAM, ALA.

MITCHELL LIME

Is Chemically Pure and Practically Free from Waste

The Strongest White Lime on the Market. Used and recommended by Sand-Lime Brick Manufacturers, Chemists, Soap and Glue Works, Plasterers and Masons.

Prices Cheerfully Submitted

Mitchell Lime Company

MITCHELL, :: :: INDIANA

HIGH GRADE FIRE BRICK

For Cement Works, Lime Kilns, Cupolas, Steel and Iron Works of every description. :: :: ::

Louisville Fire Brick Works,

K. B. GRAHN, Prop.,
Highland Park, Ky., P. O.

Hand Made — Hard Burnt FIRE BRICK

— are the best for —
Lime and Cement Kilns

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Mitchell Clay Mfg. Co.

ALL SHAPES St. Louis, Mo. CATALOG



The Buckeye Fire Clay Co.

Manufacturers of
Sewer Pipe, Flue Linings, Chimney
Tops, Fire Brick, Grate Tile, Ground
Fire Clay, Wall Coping, Etc.

UHRICHSVILLE, . . . OHIO

CEMENT-KILNS BAUXITE

Lined
with Our

Lining
Blocks

In hot zone and our special fire-clay blocks throughout the rest of Kiln can be run from three to four times as long as Kilns lined with the very best fire-clay linings. Write for booklet describing Bauxite Linings for Portland Cement Rotary Kilns.

Fire-Brick for Lime Kilns

We number among our customers many of the large Lime and Gypsum Manufacturers of the Country.

Sewer Pipe, Wall Coping, Hollow Tile
Fire Proofing, Flue Lining.

Laclede-Christy Clay Products Co.
ST. LOUIS, MO.

The Kelley Island Lime and Transport Co.

CLEVELAND, OHIO.

Tiger Brand White Rock Finish the best known and smoothest working Hydrated Lime manufactured.

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THE LARGEST LIME MANUFACTURERS IN THE WORLD.

The Ohio and Western Lime Company

WORKS AT
Fostoria, Ohio
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Tiffin, Ohio
Genoa, Ohio
Huntington, Indiana
Limestone, Ohio
Lime City, Ohio
Portage, Ohio
Bedford, Ind.
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MANUFACTURERS OF AND WHOLESALE DEALERS IN

Ohio White Finishing Lime, Ground Lime,
Lump Lime, Fertilizer, Hydrate Lime,
Cement, Plaster, Hair, Etc., Etc.

Capacity
8000 Barrels
Per Day

Offices: TOLEDO O., 209-210-211 Chamber Commerce Bldg.

HUNTINGTON, IND.

DOES NOT DETERIORATE WITH AGE.



Excelsior Hydrated Lime

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The best prepared Lime in the market. Is superior to hot Lime for all purposes. Will not deteriorate. Absolutely pure and free from foreign ingredients. Successfully used for years by the largest users of Hydrate in the country.

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HIGH CALCIUM HYDRATE

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The Clyde Hydrator

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There are more of them in use than all others put together

They have proven their merit under all conditions

We will furnish full information, booklets and interesting data on your request

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Gas Process for Burning Lime.

Four and three quarter pounds of lime to one pound of coal on a large output is now being secured every day.

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RESULTS GUARANTEED
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It will pay you to use

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Cement, Lime and Plaster

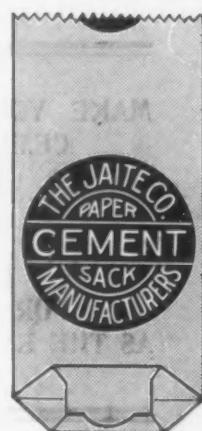
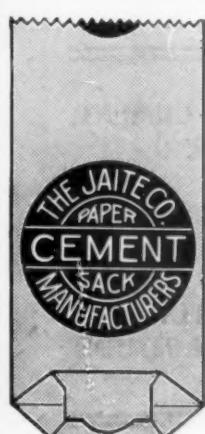
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Have that **LEATHERY FEEL** which makes it easy to tie.

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THE JAITE COMPANY

BOSTON, SUMMIT COUNTY, OHIO

SECOND ANNUAL **Cement Show**

Coliseum, Chicago, February 18-24, 1909

UNDER THE MANAGEMENT OF THE

Cement Products Exhibition Co.

The Principal Gathering of the Cement Trade in America

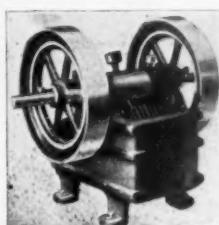
The CEMENT AGE said about the First Annual Cement Show in Chicago:

"The Exhibition was held from December 17-21 inclusive, and an estimate of the attendance may be conservatively placed at 25,000 daily. The visitors seemed to hail from everywhere, concrete block makers from Mexico were in attendance as were contractors from Spain and manufacturers from Germany. The number of exhibits surpassed all previous records. It is said that the manufacturers represented closed business to the amount of \$3,000,000."

MAKE YOUR PREPARATIONS NOW TO BE IN ATTENDANCE. EXHIBITORS OF CEMENT, CEMENT PRODUCTS, CEMENT AND CONCRETE MACHINERY, REINFORCING MATERIALS, COLORING MIXTURES, WATER PROOFING COMPOUNDS, FIRE PROOFING SYSTEMS, AGGREGATES, PUBLICATIONS, OR OF ANYTHING ELSE CONNECTED WITH THE CEMENT INDUSTRY MAY ENTER APPLICATIONS FOR SPACE. REQUESTS FOR APPLICATION BLANKS AND DIAGRAMS SHOULD BE MADE PROMPTLY AS THE ENTIRE FLOOR SPACE PROMISES TO BE TAKEN UPON THE FIRST ALLOTMENT

Address Communications to

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MODERN CONCRETE MACHINERY

The Velten Rock and Ore Crusher.

The VELTEN Crusher is faultless; it is the only crusher that can instantly be adjusted to crush rock or ore to any desired fineness. No rock is too hard for this crusher, it will crush as fine as flour if desired.

The ADVANCE continuous mixer will meet your requirements for all kinds of mixing.
Our line of Concrete machinery is complete.



The Advance.

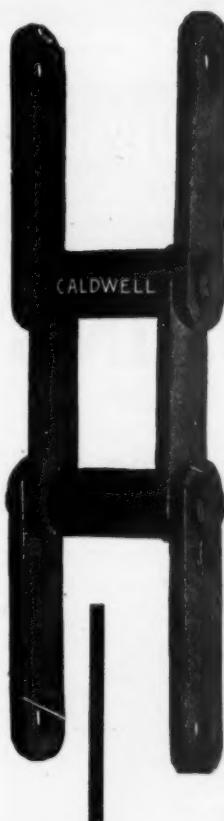
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DESIGNING AND CONSTRUCTING ENGINEERS
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CEMENT MILLS A SPECIALTY
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FOR

Industrial Plants



We manufacture machinery for transmitting power, and for elevating and conveying materials in and about cement plants, rock crushing plants, lime plants, mortar works, plaster works, and other industries.

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We manufacture elevators, also, for handling the same kinds of material.

Our lines include shafting, couplings, bearings, collars, pulleys, gears, rope sheaves, sprocket wheels, elevator buckets and bolts, steel elevator casings, etc.

We have our own foundry, sheet metal department and machine shop. We employ first-class help in all departments and use high-grade materials.

When you are in need of anything in our line, try us.

Catalog No. 28.

H. W. Caldwell & Son Co.

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NEW YORK CITY

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DAVENPORT, IOWA

Limestone and Shale

FOR MANUFACTURE OF

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WEST AND SOUTH

Coal, Water and Good Labor

For Full Particulars Address]

J. C. CLAIR, Industrial Commissioner

I. C. R. R. CO.]

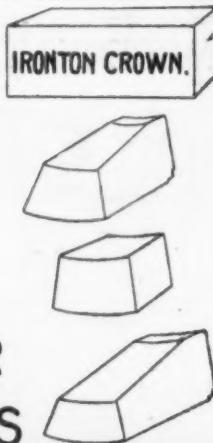
No. 1 PARK ROW, CHICAGO)

ROTARY CEMENT LINERS.

ASHLAND FIRE BRICK CO.

ASHLAND, KY.

LIME KILN LININGS.



GROUND CLAY
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AND
BOILER SETTINGS

DIRECT HEAT

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BANK SAND
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ROCK, CLAY
COAL, ETC.

All Mineral, Animal and Vegetable Matter.

We have equipped the largest plants in existence and our dryers are operating in all parts of the world. Write for list of installations and catalogue S. C.

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RUGGLES - COLES

DRYERS

RUGGLES-COLES ENGINEERING CO.

NEW YORK CHICAGO

The Cummer Continuous Gypsum
Calcining Process

See Other Advertisement, Page 64

THE F. D. CUMMER & SON CO.,
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Seven plants in successful operation producing about 1,500 tons per day.

BRICK and MORTAR COLORING

After twenty years "CLINTON" colors still stand at the head.
Get the genuine, with the "Little Yellow Side-Label."

CORRESPONDENCE SOLICITED

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ASK US ABOUT "SIDE-WALK BLACK"

CONCRETE BLOCKS

Absorption 6 per cent, Weight 170 Lbs. Cu. Ft., Strength 2400 Lbs. at 28 Days. If you can't make 'em of Shale Gravel and 10 per cent Cement,

Then Write To

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CEMENT & SAND-LIME ENGINEER
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For Immediate Shipment

Austin Gyratory Crushers.
Austin, Western and Aurora Jaw
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Sterling Wheel Barrows, Concrete
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A lot of bargains in rebuilt crushers,
all sizes and kinds.

Write for prices and catalogues.

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Send for Samples.

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OF ALL SHADES

CORRESPONDENCE SOLICITED. SAMPLES AND ESTIMATES
CHEERFULLY FURNISHED ON APPLICATION.

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Lime Kilns and Plant of Blair Limestone Co.,
Canoe Creek, Pa.

Designed by

Henry S. Spackman Engineering
Company

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Philadelphia, Pa.

ROCK PRODUCTS

ESTABLISHED IN LOUISVILLE, KY., 1902.

DEVOTED TO CONCRETE AND MANUFACTURED BUILDING MATERIALS.

Volume VIII.

CHICAGO, OCTOBER 22, 1908.

Number 4.

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Communications on subjects of interest to any branch of the stone industry are solicited
and will be paid for if available.

Every reader is invited to make the office of Rock Products his headquarters while in Chicago.
Editorial and advertising copy should reach this office at least five days preceding
publication date.

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In the United States and Possessions and Mexico.....	\$1.09
In the Dominion of Canada and all Countries in the Postal Union.....	1.50
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BRANCH OFFICES:

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Entered as second-class matter July 2, 1907, at the Postoffice at Chicago, Illinois, under
Act of March 3, 1879

There Must Not Be Undue Interference With Legitimate Business.

The business situation today should be borne in mind by all those who would participate in the election for president next month. The financial interests of this country are as timid as ever. If the election does not go the way the financier and business man think it should, we will have a continuation of the present stagnation of business. It behooves every business man today to weigh carefully the propositions set forth in the platforms of the two great parties. They should use their influence to secure the co-operation of every man on the job if we would not be placed in the uncomfortable position of another year or more of 50 per cent volume of business and 125 per cent volume of capacity.

No matter what our personal preferences may be, we should bear in mind the great future of our country. Conditions are so critical, owing to this expansion of producing power, that many a good institution with plenty of assets, but a bit short on available means, may have to go out of business if we make the error of voting for the wrong man. ROCK PRODUCTS is not an exponent of any political creed, but it is the champion of the business interests it represents, and their protection, as we see it, lies in the election of the man who will influence business reconstruction.

This return of prosperous conditions can only be secured by satisfying the financial interests, that the man in the White House for the next four years will not tear down, but will build up, not only home, but foreign trade.

We have in this great country of ours the material and the capacity to manufacture, and we must have the market. Our own back yard is a big consumer of everything manufactured in this country, but if the commercial interests continue with cold feet there must be great suffering to employer and employee. Values during the past twelve months have been readjusted in most lines to a point, where they are either on a cost or very small marginal basis. Most people expect the lean with the fat, but the big mill of commerce must grind more than half time to prevent loss to the manufacturer and give the workman employment. So in deciding to support the policies and candidacy of a man, who will best serve the business interests of this country, the judgment of the American people, who seldom err, will determine whether we will have a revival of business after the third of November or a continuation of yawning factories and unemployed men.

Let us bury the calamity howler and the political speeler in one unregretted tomb for the next four years.

There is tremendous activity in Portland cement deliveries. It is said that stocks are rapidly diminishing and that the wind-up of this long dull season is all to the good.

Let us be thankful that the election excitement will soon be over so that everybody can get down to business without interruption or commotion. It will surely be money in the pocket to look at things calmly once more.

Plans are afoot for the coming convention season, which, in concrete and building material lines, always takes place in the winter time. A whole lot of interesting features are being prepared and the conventions this year will be the greatest ever.

It is to be noticed that the lime manufacturers who hydrate their product are the busiest men in their line. The contractor who gets accustomed to using a good hydrate sees where he gets his and that is what builds up the demand. The guaranteed job never costs any extras.

At least the sand and gravel producer has had his full share of business this year. Most of the plants which are properly equipped in this line have increased their capacity and still found plenty of business on the larger scale. In fact, they have never increased their capacity until after they had the orders.

The concrete floor and the concrete roof are equally important with the concrete wall and the concrete frame, and the intending builder should never be allowed to overlook the fact that these principal structural divisions can now be made almost as cheaply and quite as rapidly as vulnerable wooden construction.

Concrete roadways and street paving, as well as bridges for municipalities and townships, are now considered to be the best permanent improvements of the kind that can be constructed. There will be more of this kind of work with each succeeding year. Even the top dressing of country roads with cement grout is something to be considered wherever the best obtainable is required.

The development of practical methods for the handling and treatment of plastic materials is well nigh a lost art, and one which has a great future before it. In fact, we are only making a new beginning in this line, and the best obtainable knowledge in this direction today is merely a primer, compared with all that must be brought out before the use of plastic materials can be fully understood and appreciated.

The best argument, perhaps, for getting busy promptly on the lakes to the gulf deep waterway project lies in the fact that the Canadian canal connecting Georgian bay with the St. Lawrence river is likely to tap the markets of the great lakes with a path to the sea while we slumber and dream of the Mississippi route. If American bottoms are to carry the commerce of the lake ports to the markets of the world it must be by our own path to the sea and not by a British canal that will discriminate in favor of British bottoms.

The plaster contractors of the larger cities are forming a national association to promote a greater plaster business which is suggested by the new materials that are coming on the market, and new methods and systems for the decorative treatment for both interior and exterior work. They realize that great progress in their trade can be promptly accomplished by co-operation and intelligent exchange of ideas and experience. They realize that to keep abreast of the progress of the times they must get together and work together as plaster specialists.

EDITORIAL CHAT

As the great national election approaches, it becomes clear that the voters are taking very little interest in the entire proceedings. In vain are the movements of the party leaders heralded broadcast and their utterances discussed at length and in detail by the daily press. There are no marching armies of partisans. There are no enthusiastic demonstrations, no big crowds of men to listen to the eloquence of the spellbinders. The people who cast the votes are better informed than in times past. They have learned that no amount of political agitation can have any serious bearing upon the sociological and economic questions which absorb the interests of all.

There is no political issue before the voters of this republic, and they realize it fully. For more than a generation the politicians have lectured upon financial and commercial economics in the vain attempt to incorporate such issues into the political game. Practice has taught that the two are not compatible, and even the humblest voter has come to know that politics has little or no relation and certainly no positive bearing upon either financial or commercial economics.

Whether willing to admit it or not, the intelligent business man of today realizes that the commerce of this country will not and can not be seriously inconvenienced by the administration of any political party. It really makes little difference to the business world which particular set of politicians get the salaries that are paid in Washington, or lead in the discussion of legislative measures. Certain it is that there will be no radical changes in the general plan of investing money and earning profits, and the vehemence of the political demagogue is not a matter of importance to business men.

The improvements of the great cities and market centers will continue as the population increases. The amount of building materials used will always depend upon the necessities for the accommodation of trade, and for the comfort of the individual citizen. It is not a matter of volition or speculation so much as a driving necessity to keep up with the demands of a growing country.

For almost a year there has been a pronounced suspension of improvements and even of needed repairs on the part of the largest business organizations of the country, such as railroads and the food supplying establishments. Repairs and improvements that were due one year ago are more imperative at the present time, if for no other reason than their postponement. The time is coming, with absolute certainty, when further postponements will be impossible and the improvements will have to be taken up definitely and disposed of, and their volume will be none the less and possibly greater in the matter of materials consumed than if there had been no curtailment of activities in the present year.

The business public as a whole are inclined to overestimate the percentage of materials consumed and labor employed by the big industrial and commercial organizations and at the same time underestimate the percentage of the total volume of materials and employment that spring from individual enterprises and personal investments. Every business man is acquainted with the names of the two or three dozen railroad corporations, with the dozen or more meat packing institutions, with the half hundred mammoth industrial establishments because they are advertised and discussed in the press every hour of the day. The millions of individual enterprises are all unseen and naturally overlooked.

When the accounts are drawn up and the balance sheet struck for the year 1908, in spite of the widely discussed financial depression and campaign disturbances and curtailment of activities by the great corporations, it will be found that the distribution of building materials of all kinds and employment of labor in the building trades will be beyond what has been called normal and almost equal to the banner years of 1906 and 1907. The big projects that are to be taken up in the coming year will proceed as at present contemplated and designed, regardless of the denouement of the political contest, and the prosperity of those who furnish materials as well as those who contract for employment will not be seriously affected thereby one way or the other.

If anybody doubts the sentiment of the people with regard to the internal waterways improvement movement, just note how the voters of Illinois show up on

the question. It is the first time that an opportunity has been given to the public to express their endorsement in a way that counts. As it is an economic move in which every citizen shares in the benefits the voters are itching to "get to it."

Oscar E. Thaleg is now connected with the crushing department of the Power and Mining Machinery Company, 1219 First National Bank Building, Chicago. Mr. Thaleg was formerly connected with the manufacturing end of the business, being located at Cudahy, Wis. He will travel among the crusher people in Ohio, Indiana, Illinois and Iowa, and whenever there is a chance to sell a McCully crusher he will be found on the job.

B. H. Rader, the eastern sales manager of the Universal Portland Cement Company, with headquarters at Pittsburg, has probably more intimate friendships in the trade than any man in the cement business. He is genial and companionable and one clasp of his hand and one look from his eye makes you feel as if you had known him for life. He would have made a success of any business in which he might have embarked because he possesses the qualifications that spell success in any line of endeavor. No man keeps closer rein on his trade than Mr. Rader. He is personally in touch with every customer on his books. He studies their wants and never lets the grass grow under his feet when once he starts out to get their business. The Universal is fortunate in having such a man as Mr. Rader in their organization, and it is due to him, to a large extent, that the Universal has found such great favor in the eastern territory.

J. P. Beck, who has charge of the publicity department of the Universal Portland Cement Company, Commercial National Bank Building, Chicago, has been made director of advertising of the cement show, which is to be held in Chicago next February. Mr. Beck is well qualified to handle this important post. His experience with the last show will be of value to him. He is a young man full of good ideas on advertising and an enthusiast on the subject of publicity.

E. A. Coates, of the Northwestern Portland Cement Company, was a Chicago visitor recently. He was accompanied by his wife, and they spent a week seeing the sights. Mr. Coates paid a visit to the cement people and renewed old acquaintances. He is well known to the local trade. In speaking of conditions he says that the Northwestern have had a phenomenal run of business this season. They have been unable to cope with the business that has been offered them. For a new company their showing is extraordinary and bespeaks highly of the product of their mill, as well as the efficiency of the sales force. They already have a bunch of large contracts on hand for next season's delivery.

Fredrick E. Paulson, the energetic, the irresistible, the indefatigable, the genial, was a Chicago visitor this week. Mr. Paulson is one of the biggest hustlers in the cement industry, and no one is better posted in his territory than he. He is personally acquainted with every contractor and dealer and no job is too big for him to tackle. He says that shipments from the Lehigh-Mitchell mill have eclipsed all previous records. He is very optimistic over the outlook and sees no reason why the present rush should not continue.

"The Early Cement Makers" is the title of an address delivered by Robert W. Lesley, of the American Cement Company, Philadelphia, before the Lehigh Valley Section of the American Chemical Society at Easton, Pa., May 29, 1908. It is a beautiful piece of English composition, clearly and briefly telling the story of the birth of the cement industry by one personally identified with every step of development from the earliest American activities in this line. No one but Mr. Lesley could command the materials as well as the style for such a perfect contribution to the literature of the cement industry. The full text appears in the current number of *Cement Age*.



B. H. RADER, PITTSBURG, PA.

"Manual of Reinforced Concrete and Concrete Block Construction" is the title of a practical pocket size compilation of useful information for the concrete engineer and inspector, by Charles F. Marsh and William Dunn. It comes from the press of D. Van Nostrand Company, 27 Warren Street, New York.

Guy J. Parke, of Decatur, Ill., who is a prominent retailer of supplies when he is at home, but a golfer of renown when he is visiting Chicago, swears that Tom Mogoff nor any other cement man is fit to have a picture taken after a contest around the links with him. Of course we accept the correction for the sake of courtesy and challenge him to make good, even if we have to get our pictures taken on a post card.

C. Weber Jones, manager of the cement business of Samuel H. French & Co., Philadelphia, who are the sole sales agents of the Dexter Portland Cement Company, was through error in our last issue mentioned as a member of the Dexter company instead of as above.

We had the pleasure of a conversation the other day with Charles Weiler, manager of the Western Lime and Cement Company, of Milwaukee. Mr. Weiler reported that building material business, although locally had been fairly good, had suffered from reduction in demand for lime and cement. He also regretted the lack of consumption for lime, emphasizing the tendency of the business to practically stand still.

It was in a dingy chophouse in Sixth Avenue, New York, where several eminences in concrete were gathered. Those present were C. Ross Tucker, structural engineer; K. L. Martin, bridge engineer; Merril Watson, expanded metal specialist; P. Austin Tomes, author of concrete literature; A. A. Pauly, the inventor of concrete machinery and the editor of *Rock Products*. If anybody mentioned aught but concrete it would never have been noticed. Watson handed Pauly a bouquet by remarking that his invention exceeded all other improvements in the line of concrete because his machinery transforms the simple cubic yard of concrete into the highest money value of commodities yet attained, in the shape of structural tile, salable in any and every market. In this all the eminences agreed.

W. H. Ford, who now lives in Montreal, where he presides over the office of the William G. Hartranft Company in the Bank of Ottawa Building, selling the new Vulcan brand of Portland cement to the leading retailers of the Province of Quebec and throughout Canada generally, entertained a *Rock Products* man recently. Of course it was the old-fashioned southern aristocratic kind, the only kind he keeps in his shop, which doubtless has no little to do with his winning popularity in whatever clime he happens to find himself. Mr. Kelley, the president of the Vulcan Company, happened to come in from New York. The mill was completed and began shipping cement early in July, and is now running full blast. A 20,000 barrel order for the government work on canal improvements had just come to hand. Shipments of the full capacity of the mill have been maintained from the store.

In the evening Mr. Ford led the way to the Engineers' Club, and there happened to be Mr. Morrison, of T. A. Morrison & Company; Mr. Kilburn, of the Lakeside Portland Cement Company, and Mr. Stinson, of the Stinson-Reeb Builders' Supply Company. Now how could a *Rock Products* man fall into pleasanter lines than that. We visited and tasted the good things of that delightful retreat until long past the usual closing hour. Every member of the company had such a good story that all the balance had to hear them out. Such little meetings of such a party are the posies by the wayside of the straight and narrow path of modern business life.

Prosperity Returning in Earnest.

That the country is reviving rapidly from the recent depression is shown conclusively in the reports from various cities in the United States. Beginning with September last year the building industry of the entire country began to show signs of being affected by the strained financial situation. In many cities it was found absolutely impossible to continue operations on account of the lack of ready money. Now that conditions have become more normal and money matters are in better shape, building operations are showing a gradual increase.

The increase is not heavy, aggregating \$3,385,000, or more than 7 per cent above the figures of a year ago, but the presidential election is not an entirely negligible factor just now. Without doubt, when the smoke of battle shall have cleared away, the unduly timid ones will bring their hoards out of the old socks and much improvement and new work is likely to result therefrom as soon as the returns demonstrate what is to happen politically.

As compared with August building operations, the September total is \$6,500,000 heavier and is in fact a fully normal month in construction work. Of the total of fifty-six cities from which reports are furnished, thirty-five showed more or less of an increase over the corresponding month a year ago, while twenty show a decrease, and one, San Francisco, a little more than holds its own. Chicago, for many months showing a gain over the corresponding period last year, developed a decline of 6 per cent from September, 1907. New York's gain of 14 per cent is significant, as is also that of Lincoln, Neb., of 42 per cent.

The number of building permits taken out during September, 1908, was materially in excess of September, 1907, indicating a class of smaller buildings under construction. This, coupled with the fact that there is a 7 per cent increase in the total instead of a 13 per cent decrease, as was the case in August, should impart a decidedly rosy tinge to the hopes of the dealers in building material.

	September, 1908.	September, 1907.	Percent Gain. Loss.
Allegheny, Pa.	\$ 1,190,177	\$ 1,134,632	4 ..
Atlanta, Ga.	436,019	256,188	70 ..
Baltimore, Md.	494,195	824,215	40 ..
Birmingham, Ala.	243,245	102,210	137 ..
Buffalo, N. Y.	644,000	688,000	.. 6 ..
Chicago	5,147,350	5,523,900	.. 6 ..
Cleveland, O.	1,332,122	874,165	52 ..
Cincinnati, O.	456,245	417,169	9 ..
Columbus, O.	322,925	358,165	.. 9 ..
Dallas, Tex.	187,652	207,250	.. 9 ..
Davenport, Ia.	33,450	33,030	1 ..
Denver, Colo.	1,006,625	472,230	113 ..
Detroit, Mich.	1,193,150	1,191,500	1 ..
Duluth, Minn.	294,922	308,408	.. 4 ..
Grand Rapids, Mich.	132,228	237,325	.. 4 ..
Hartford, Conn.	1,377,165	1,570,120	.. 12 ..
Indianapolis, Ind.	513,236	453,659	13 ..
Kansas City, Mo.	1,357,910	922,497	47 ..
Lincoln, Neb.	161,430	113,325	42 ..
Louisville, Ky.	255,315	184,080	38 ..
Los Angeles, Cal.	849,703	1,116,901	.. 23 ..
Manchester, N. H.	25,145	58,810	.. 57 ..
Milwaukee, Wis.	910,315	580,434	56 ..
Minneapolis, Minn.	861,200	753,770	14 ..
Memphis, Tenn.	303,685	280,276	6 ..
Mobile, Ala.	50,585	41,100	23 ..
Nashville, Tenn.	107,183	131,483	.. 18 ..
New Haven, Conn.	255,120	183,115	39 ..
Newark, N. J.	710,459	626,085	13 ..
New Orleans, La.	185,151	163,892	12 ..
New York	11,839,874	10,341,964	14 ..
Oakland, Cal.	465,142	594,737	.. 22 ..
Omaha, Neb.	473,800	396,155	19 ..
Paterson, N. J.	182,259	60,465	201 ..
Philadelphia, Pa.	2,545,520	3,113,810	.. 18 ..
Pittsburg, Pa.	1,180,177	1,134,632	4 ..
Portland, Ore.	972,355	943,300	4 ..
Pueblo, Colo.	25,100	14,515	72 ..
Rochester, N. Y.	523,248	476,525	10 ..
San Antonio, Tex.	162,495	245,240	.. 33 ..
San Francisco, Cal.	4,127,820	4,113,732	.. ..
Scranton, Pa.	113,058	114,209	.. 1 ..
Seattle, Wash.	1,104,631	1,206,874	.. 8 ..
Salt Lake, Utah	317,000	209,000	51 ..
South Bend, Ind.	82,830	72,900	12 ..
Spokane, Wash.	495,380	416,610	18 ..
St. Joseph, Mo.	71,557	119,949	.. 40 ..
St. Louis, Mo.	1,483,016	1,966,956	.. 23 ..
St. Paul, Minn.	766,892	410,512	86 ..
Syracuse, N. Y.	418,305	245,207	75 ..
Tacoma, Wash.	528,393	300,455	75 ..
Terre Haute, Ind.	90,388	96,490	.. 6 ..
Toledo, O.	204,955	325,135	.. 36 ..
Washington, D. C.	1,300,122	446,118	101 ..
Worcester, Mass.	182,238	130,300	35 ..
Youngstown, O.	241,200	98,400	142 ..
Totals	\$50,926,262	\$47,398,838	7 ..

H. H. Gross Goes To Paris.

CHICAGO, Oct. 17.—H. H. Gross, secretary and treasurer of the Farmers' Good Roads League, has gone to Paris, where he will be one of the four delegates appointed by President Roosevelt to the International Congress of Experts on Road Building, on October 7 to 17. The congress has been called by the French Government because of the ravages which motor cars are making in the oldest and best-built roads in Europe.



Spoiling Good Salesmen.

By G. WILLARD PEARCE.

A majority of the most efficient and the best-paid traveling salesmen in this country are employed by corporations and firms which give these men the largest degree of liberty of action consistent with the proper discipline, which should be maintained by the directive officers or partners. Employers who give their travelers a wide scope, with the duly delegated power to execute important contracts in accordance with a high sense of duty, based upon full responsibility, are always broad-minded men who know the value of having men in the field who can be trusted implicitly to take care of their interests.

One of the reasons why so many very successful corporations and firms in our country are directed by men who were trained in the great shipping firms of the long ago, is because those men received a very severe commercial training in counting houses, whose interests had to be committed to foreign agents, to super-cargoes and to masters of ships. Care was taken that men employed by those old school merchants for service abroad were rugged in their integrity, and able and ready to assume responsibility anywhere in the world. One hundred and fifty-six of the largest industrial corporations in the United States and Canada are directed by men first trained in the shipping business, or by great men of affairs who had been brought up in the shipping trade. John Pierpont Morgan's ancestors on both sides were in the shipping trade. He, as a young man, was sent by his father to London to study commercial and banking affairs under George Peabody, who had been trained by shipping merchants in New England, New York and the South. All the men in the service of J. P. Morgan & Co. are trained in the methods of doing business which the senior partner learned in Peabody's service. James J. Hill had his early training in the shipping trade. He was taught to act instantly for his employers' interests when cut off from quick connections with the home offices. Darius O. Mills, the hearty and active eighty-year-old banker, was trained first in the shipping trade, and then as a traveler for orders in general merchandise, as were most of the great pioneers who made the golden and glowing West. All the members of the Ames family, that did so much for the Pacific railroads, had their early training as salesmen for manufacturers trained in the shipping trade. Michael R. Grace, owner of the majority of the stock of one of the largest machine-making corporations in the country, the Ingersoll-Rand Company, was bred to the shipping trade, and had to take the responsibility on the spot in closing sales of all kinds of merchandise when in South America, while his principals were in New York.

Give your traveling men full responsibility and do not keep nagging at them with letters of advice and with criticisms of their conduct, based upon an imperfect knowledge of the conditions and circumstances that environ them when far from home, is an axiom which might be termed the golden rule to govern relations between employers and travelers. In many years' experience as a traveling salesman for very large corporations, and as a director of traveling salesmen in the domestic and the foreign fields, I give it for my opinion that in most cases when employers find fault with their salesmen, whether in the store or on the road, they are in the wrong. It is a popular delusion that American business men are, as a body, the most intelligent and learned in the world. Nothing is more remote from the truth. Only a few American business men of the first consequence in the volume of business are either of good family or of good education. British, French and German merchants and manufacturers average far higher in breeding and education than the average business man of our country. The rough and tumble classes of men who direct some of our large corporations or firms are just such men as in Europe are put into a uniform and made to learn the goose step, and are shoved where they cannot annoy people with their crudities and vulgarities and knavish trickery.

Within a few years a quiet revolution has been going on in the direction of many of our important industries, under which the rough and tumble sort of men who are always boasting that they are "self-made"—how thankful God must be to them!—have been put out, and well-bred men of larger mental calibre have been put in their places, greatly to the joy of the good home and traveling salesmen for the

concerns. Tens of thousands of American firms and corporations have gone down in bankruptcy because their directors were stupid, ignorant, bad-mannered and tyrannical to salesmen and other employees, and so foolishly grasping for every cent for themselves that they incurred the righteous detestation of the trade and their employees. Infamous was the head of a once great combination of western manufacturers, whose head was noted for working all arts to employ gilt-edged traveling salesmen, and after a time treating them so badly that they sought other employment. Any traveler who could remain with the firm six months and be discharged with a bad character given by the president was able to get employment elsewhere—just by showing his letter of discharge. One man who put up with that sort of thing for five years and was discharged for making love to the president's daughter—whom he afterward married—was taken the same day as manager for the next largest house in Chicago, and is now one of the largest employers of traveling salesmen in that city. All his good assistants, office forces and travelers love him, because he is "a guide, philosopher and friend," who, having knocked about in hard lines with a grissack, knows the many trials of the traveler, and makes allowances for the days when, despite good and unremitting work, the orders do not make a good showing.

As there has been an improvement within a few years in employers, so the same laws of progression have evolved a better class of travelers. The old-time, hard-drinking, gambling, loud-mouthed, vulgar, girl-chasing traveler is as extinct as the dodo. The lower orders of liquor vendors now demand a higher type of man as a traveler than some dry goods, hardware and fancy goods firms of a few years ago cursed themselves with. Salesmanship has become a profession, and in some lines of commerce, the traveler is a highly educated man, competent to speak on a technical subject in a convincing manner, and to describe what he proffers for sale in an essay fit for the pages of a high-class technical periodical.

In a few trades in which there is not an educational standard for the traveling salesman, and in which employers consume a large amount of their energy in writing commonplace and schoolboy-like letters to men on the road, the result is that employers and employees are working at cross purposes, which tend only to keep the employer on the lower rounds of the ladder, and a good deal of the time of the nagged travelers engaged in trying to get interconnection with another house. It is said of a very important trade combination, which after a few years went to pieces, that the concern was killed by the nagging of its large force of traveling salesmen by a broken-down clergyman, whose rich wife had bought a large block of stock in the corporation. As no other place could be found for this man he was placed as a manager of the travelers and city salesmen. He spent several months in devising tom fool reforms of reports to be daily filled out by the salesmen, and as he was an interminable and shallow talker, he employed several hours a day in dictating what the salesmen called "sermons," which were sent to each salesman. These letters invariably propounded a series of questions that required answers. Between answering the letters and filling out the daily report blanks in detail, as the rules required, a large amount of time was consumed by the salesmen, and, in consequence, the loss figured largely against their employers. Too much discipline is worse than too little. Of this there is no doubt whatever.

Practical Lesson in Advertising.

By WARREN AIKENS.

Does trade journal advertising pay?

If so, in what does its value consist?

These are questions that have, at one time or another, and perhaps on many occasions, occupied the mind of every successful manufacturer or dealer. That the answer to the first has been affirmative is shown by examining the papers themselves; for, in publications of recognized standing, very few concerns of any importance are unrepresented. If such advertising were not profitable that fact would, long ago, have been discovered by the shrewd, closely-calculating "captains" of modern industry. Yet, now and then, a doubt arises.

In the fat years or the lean; in seasons of prosperity, of expansion, of development, and in times of panic, near-panic or depression; in all lines of trade and among all producers or dealers, large and small, running expenses increase with alarming rapidity. The "burden" to be reckoned with grows over night. What can be done to keep it within bounds? Periodically expenses must be reduced. There is a cutting, trimming and paring, a filing and rubbing down of all non-essentials. "Business manicuring" it might be called.

As a manager scans the list of items which make up his burden, woefully few of them can be touched

ROCK PRODUCTS

at all; in fact, some departments want building up, new shop equipment is usually needed, and in the field more men are required. But ah! There is the trade journal advertising! That can be dispensed with for a time, or at least greatly lessened. Is it really good for much, anyway? Desire expresses doubt. Economy urges that something be done. The harassed judgment is persuaded to "try for a while" what eliminating this expense will do. So the blue pencil goes through that item.

Consequences follow like a swarm of locusts.

First to descend upon the manager, or his unhappy advertising man, are the solicitors of the trade papers. Coming too soon, they depart with cold comfort. To nerves already worn and inflamed from the struggle with figures, these men are only irritants—"good fellows," and friends though some of them may be. Peace ensues for a period, perhaps; then satisfaction is rudely jolted.

"What," writes the western sales manager, "has become of our ad in the *Record*? You know my men are pushing that line now and we need to keep it before the superintendents and owners of plants in this part of the country. My mail last week brought a number of live inquiries which can be directly traced to that announcement, and one good sale will pay for it many times over. I know we have to economize just at present; but, for heaven's sake, don't let a few dollars' worth of advertising stand in the way of our campaign here."

Another mail brings the weekly report from MacDonald, manager of the Louisville office, with an enclosure on which he has written "Note." It says:

"I am sorry, old man, that your company was overlooked in sending out the specifications; but the fact is I instructed our people to write to all of the concerns listed in the *Journal*, supposing, of course, that your name was there with the rest, as usual, and when no reply was received from you I thought it was because you didn't care to bid. Aren't you advertising now?"

"What's your idea," explodes Collins, head of the construction department, as he bounces into the manager's presence, "in stopping our ad in the *Review*? They got a wire Thursday saying that the Ridgeland Mills had burned and turned it over to Snavely of the Robely Company. I only just learned of the fire by reading this week's issue of the paper, and when I called up the editor to ask why he didn't put us next, as ordinarily, when he got the news, he said they naturally had to give preference to their advertisers. There's a three hundred thousand dollar contract gone, to a certainty, and I know we could have got it if we had been on the ground as soon as the Robely people. As it is they've undoubtedly got the plans in for a new mill and the specifications so drawn that we can't bid at a profit."

From Collins the manager turns again to his mail.

"Enclosed find sketch and preliminary estimates on a plant which the Cia. de Rio Estrella is going to put up at Entreñas," begins a letter from Blackford, agent of the company at a South American capital. "Please cable lowest figure at which we can take the job. I'm afraid it's too late, but with a favorable price we may be able to get in. The director of the Cia., José Silvera, received a copy of the *World's* export number, and on looking through it he saw an advertisement of Farmer & Son, with the address of their agent at Para, so he wrote there, not thinking of us in this connection until yesterday, when I happened to meet him at the club. Riddies went up the river from Para on a specially chartered launch when he got Silvera's letter, and has practically acted as their engineer in designing the new works at Entreñas; therefore, our only show is in a low price. You know Entreñas is way back near the mountains, and Silvera seldom comes here, so I had no opportunity to know what was going on. I thought you carried an ad in the *World*. Why don't you?"

During the week that these reports come in the manager does some thinking; but the shops are full, new business is not urgently needed, and the saving effected by not advertising is an appreciable help in keeping down the burden; so he concludes they will continue to get along without it for a while longer.

But as the days pass, complaints from the salesmen and branch offices multiply. Blanchard, when rebuked for losing the Mayville contract, comes back with the statement that the superintendent saw a new attachment for these machines advertised by the Weber Company and had "overlooked our previous announcement on the same subject," not having been interested in it at the time. Consequently the Weber people had the first chance and made the most of it.

Hawley, who always says just what he thinks, writes a scathing letter to the manager, inquiring whether it would not be better, if the concern is too poor to hold its own in advertising, to close up shop altogether. The letter is querulous and impertinent, but it contains enough truth to sting. Having let his feelings effervesce, Hawley gets down to facts, stating two specific instances where engineers favor-

able to the company's principal competitors have "jockeyed" him out of a chance to bid by marking, in certain papers, advertisements of machinery such as was needed and suggesting to the purchasers that they get competitive prices from these builders. Both of the customers are acquaintances of Hawley, but, not seeing his company among the advertisers of the apparatus, had overlooked the fact that it manufactured such machinery.

Dickson, on the "Coast," having moved his office about the time the advertising stopped, is very much disgruntled because a large manufacturer in Southern California, who had suddenly decided to make an addition to his factory, could not find Dickson's new address in a trade journal, where the old one had been given in advertisements for years, and consequently failed to find him in Frisco, running into Black, of the Davis Company, instead. This customer being a personal friend, Dickson feels the loss of his order extremely. It also gives the Davis Company an opening in an industrial center from which great pains have heretofore been taken to exclude them.

So the reproaches from salesmen multiply. Also, while most of these bear *prima facie* evidence of being justifiable subjects for complaint, the manager begins to feel that some of the men are putting them forward as excuses to cover actual neglect of duty. Yet the uncertainty prevents reprimand, and the result is more or less demoralizing.

Inquiries made directly to the home office of the company have most assuredly fallen off in volume, and requests for catalogs are less numerous. The shops appear to be catching up on orders faster than the general trade situation warrants, and an active sales campaign is far more desirable than a few weeks back, when the manager looked complacently upon the loss of business not particularly needed.

As he examines a weekly summary, the matter of advertising recurs persistently to the manager's mind. He recalls the time when, as a subordinate blazing the way to his present position, he strenuously advocated advertising in time of prosperity to strengthen the company's hold upon the trade and prepare it for the season of decreased activity which periodically follows. There also comes the prideful remembrance of suggestions for advertising made by him during the dull days, which brought orders to the company and credit to himself.

Moreover, the retrenchments recently entered upon have caused considerable talk, and competitors are pointing to the withdrawal of the company's advertising as an indication of financial embarrassment, warning customers against placing contracts for any time ahead with a concern liable to become insolvent and leave them in the lurch, with machinery urgently needed to complete projected improvements or additions still unbuilt. The manager knows of one very large order lost through that report before the company learned of the circumstances and could reassure the purchaser's mind.

Representatives of the trade journals have also been dropping in to see him again, one by one; and the events of the past few weeks, coupled perhaps with more tact on their part (for, when surprised by an abrupt withdrawal of advertising, the average solicitor often lets dogmatism and resentment control his manner), incline him to give more heed to their statements. He learns some things which, with all his experience, he has failed to heed before.

Such, in brief, is the history of many an attempt to "cut out" advertising. The details will vary, according to circumstances, but the facts in such cases are essentially the same. That the trade and technical journal has become an important, yes, an essential factor in our modern industrial world is incontrovertible.

Manufacturers or dealers who realize this truth and work in harmony with it are substantially agreed that advertising in these papers pays, that withdrawal of it will sooner or later result in loss. But how largely it pays, particularly in comparison with more direct methods, whether the profit realized is in proper ratio to the space carried, and in what manner the best returns can be secured, are subjects upon which thought and action vary widely.

In the foregoing are intimated—barely intimated—some of the negative features of trade journal advertising which, when gained by actual sales' experience, dispel all doubt of its efficacy. This is a desirable, if not necessary, prelude to consideration of positive aspects of the subject, which will be treated in later articles. The author is not, and never has been, connected with a trade journal, but writes from the standpoint of the advertiser.—*Selling Magazine*.

The Evil of Wide Open Quotations.

Post card and broadcast circular letter quotations are unfavorably commented upon by a large number of the retailers of builders' supplies. Such quotations are usually low and of a special character, or for a limited period. Sometimes a card of this kind falls

into the hands of a customer, or it might chance to be left lying upon a desk or counter by the postman where a customer happens to notice it, and the attitude of the receiver toward the sender possibly would undergo a sudden and violent change.

Objection to the postal card quotation arises from the generally observed custom of not informing a customer of the cost of goods. Those doing a merchandising business very gladly quote selling prices upon request, just as the manufacturer and jobber quote prices. Concerns manufacturing and selling products direct to the retail merchants probably would not take kindly to the suggestion that they also show exactly what their goods cost. The manufacturer does not feel called upon to show every time a quotation or sale is made just what his margin of profit amounts to. That would look as though the business was in incompetent hands. The seller could not show the average price for the year because the records for the year would not be complete. He might guess at a profit and fill in the estimated cost to him.

It is not always possible or convenient to keep these cards out of sight, and besides the cards pass through the hands of the postmaster, who not infrequently is a close relation of Mrs. Grundy, originating and distributing news through the community. In the case to which attention was called the prices made were subject to change without notice and were on a delivered basis. Suppose an order had been placed by the concern receiving the quotation and previous disposition had been made of the stock.

Perhaps merchandising may some day be changed and in the future every article offered for sale may bear the net cost price to the dealer as well as the price asked, both amounts being marked in plain figures, but until that day the retail merchant is entitled to protection. Manufacturers and wholesale dealers sending out quotations to the trade will do themselves a favor by bearing this in mind.

Room for Better Workmen.

The plasterers' trade is a most attractive occupation for any young mechanic to study who has artistic tastes and a desire to build himself up for future advancement. The pay of the practical plaster expert is good and always will be. For the man who will study materials, their mixtures and combinations, the treatment of surfaces and modeling of relief work, there is practically no limit to the possibilities for advancement. The treatment of cement mortar exteriors is already an interesting study to the architects. They complain that it is difficult to secure plasterers who know enough about the manipulation of the necessary materials to secure the expressions that they want to design and specify. This constitutes a whole field as yet scarcely touched, and certainly must be soon developed to keep up with the progress of the age. Decorative work would be used to a much greater extent if it was possible to secure the physical work of putting it in place according to original plans. A prominent architect recently said: "You would be surprised to know the great amount of modifications that we are constantly called upon to make in plaster specifications for the simple reason that it is next to impossible to get the work done according to the design in anything like contract time. The plaster sub-contract must of necessity come in about the completion of the work. This is frequently after much time has already been lost, so that there is no further latitude or margin of time to be lost. The plaster work is too often rushed. Probably there can never be a remedy for this evil—it seems to be a part of the natural outcome of many contractors working on the several parts of the job. Nevertheless there is no end of an opportunity for better informed material experts and practical workmen who understand all the variations of treatment for the good, bad and indifferent surface for laying plaster upon. There would be more money spent for fine plaster jobs if the contractors could supply plenty of workmen who are capable of turning out first class work."

This can mean nothing less than a wide open opportunity for the young man who can work with his brains as well as his hands to learn a trade that has a safe and profitable future to it.

The Raymond Brothers Impact Pulverizer Company, 141 Laflin Street, Chicago, have issued a booklet entitled, "Making Air Make Money." On page 53 of this issue will be found a coupon, upon receipt of which properly filled out, they will send the book. They say: "The reading of our book may surprise you as to what we can do for you. That you have no fault to find with your present methods is no proof that there is not a better way. It will cost you nothing to read the book. Just ask for it. The reading of it may mean thousands of dollars in your pocket." This company manufactures automatic pulverizers, roller mills, vacuum, air and screen separators, crushers, special exhaust fans and dust collectors.

CEMENT

Striking a Happy Medium.

There is a marked improvement in the cement situation. Prices are ruling firmer than thirty days ago and stocks of cement have been diminished. The situation in the Central West and South is believed to be better than in the East. Conditions generally, however, are better now than they have been at any time since the recent financial disturbance.

Some companies are actually without a barrel of cement on hand today, being sold up to their daily output. These companies have temporarily withdrawn their salesmen from the field, being content to take care of the business offered them.

It is difficult to obtain exact information regarding supplies on hand, but from the best advices obtainable, it would seem as if the stocks were almost entirely wiped out.

We predict an early return to normal conditions, and while the sales managers of the big companies say that prices will go higher, none of them thinks that the same high prices will be reached as observed a year ago.

The immense growth of the industry will, we believe, prevent any repetition of the shortage which prevailed a year ago. The wisest heads in the industry are frank to admit that the prices were abnormal then and do not think that the cement industry is benefited by such high prices.

There is a happy medium which will have to be struck, one that will enable the manufacturer to realize a fair profit on his investment and yet low enough not to retard its continued use as a cheap building material.

Six Cars to Transport Engine.

KANSAS CITY, Mo., Oct. 16.—The H. N. Strait Manufacturing Company's plant in Armourdale recently finished the largest engine ever built west of the Mississippi river. The engine weighs 150 tons and is an 1,800-horsepower apparatus. It is a direct connection engine with an 800-kilowatt generator. The Great Western Portland Cement Company had the engine built to furnish power for their entire plant at Mildred, Kan. The shaft which supports the flywheel is 20 inches in diameter and weighs 30,000 pounds, which is a load for one car. Six flat cars will be used to transport the entire engine.

Routed via New York.

WASHINGTON, D. C., Oct. 18.—Secretary Wright said that all the cement for the Panama Canal work would be routed via Hoboken or Jersey City because the freight from the mills to those points is less than to Philadelphia. The cement will be delivered to the shipping point in lots of twenty-five cars per day. The entire shipment consists of over 6,000,000 barrels of Atlas Portland cement.

Bath Portland Gets Big Contract.

BETHLEHEM, Pa., Oct. 18.—The Bath Portland Cement Company recently received the contract to furnish the city of Havana, Cuba, with 1,000,000 barrels of cement for use principally in the construction of a sewerage system and a cement mill. The contract is to be filled within a year and, with the recent big order given the Atlas Company by the government for the Panama Canal, will boom business in this section greatly.

Victor Beutner Will Erect Mill.

KANSAS CITY, Mo., Oct. 16.—The Lumberman's Portland Cement Company, with general offices in the R. A. Long Building, has closed a contract with Victor Beutner, a prominent engineer and constructor of Pittsburgh, Pa., for the erection of its cement plant on the lands of the company at Carlyle, Kan., five miles north of Iola, on the main line of the Santa Fe Railway. Work on the plant is to begin at once.

Get Big Contract.

IOLA, KAN., Oct. 16.—A contract has been awarded to the Iola Portland Cement Company for furnishing 40,000 barrels of cement for use in connection with the Shoshone irrigation project, Wyoming.

The Miller Portland Cement Company are running their plant near Chelsea, Mich., day and night. A number of large orders have been booked and are being filled as rapidly as possible.

Cement Plant Being Enlarged.

The Standard Portland Cement Company, of which F. H. Lewis is the general manager, is making important improvements at its plant at Leeds, Ala.

The overhead railroad around the plant is about complete and the concrete hopper and chutes in which the cars are to dump coal are nearing completion. Work will soon commence on the second bin. Coal, shale, limestone and other bulky raw material will be handled by machinery in the future. Mr. Payne, the superintendent, has also finished the concrete foundation work for the 90x32-foot machine shops and now has a force of men excavating for the foundation of the No. 2 stock house.

Plans are being made for the big offices and other buildings and improvements which the management has determined to put in about the enlarged plant. It is also authoritatively stated now that the second and third units of the plant are to be built.

Have Resumed Operations.

BAY CITY, Mich., Oct. 17.—The Heela Cement Company announce that their plant is now running to its full capacity, having resumed operations October 1. The daily output of the mill is 1,500 barrels.

The company has expended a large sum of money, the present year, in improvements and the plant is in fine condition. It owns the steamer E. B. Ward, which has been engaged during the season in carrying cement to upper lake ports.

The management states that the cement trade is active now and regards the business prospects as exceptionally fine. It is expected the plant will continue operating with a full force through the year.

Excursion to Edison Plant.

NEW YORK, N. Y., Oct. 10.—The excursion to the mill of the Edison Portland Cement Company, which was given by Thomas A. Edison and his staff of experts on Saturday, October 10, was attended by a representative class of guests, among whom were many engineers of New York City, contractors, builders and dealers from New England and New Jersey.

At the mill at New Village, N. J., the guests, two hundred and two in number, were told off in squads of ten or more men and began the tour of inspection, being led by guides who explained all the various processes, from the grinding of the large six or eight ton rocks to the pulverizing of the clinker in the giant roll to a consistency of flour.

Mr. Edison, always congenial and happy in a crowd, dispensed good cheer and hand clasps with all comers.

The company furnished a very satisfying collation on the train and the unanimous opinion was that the day's outing had been a great success.

The train left the mill at about 6 p. m., after a frantic effort on the part of the Edison force to gather all its guests together, many being reluctant to leave such an interesting demonstration of the "wizard's" prowess in automatic perfection as regards cement manufacturing machinery.

New Texas Cement Plant to be Built.

SAN ANTONIO, Tex., Oct. 16.—The erection of a half-million-dollar cement plant near San Antonio is the object of a contract which has been signed between the newly organized San Antonio Portland Cement Company, of this city, and the Henry S. Spackman Engineering Company, of Philadelphia, Pa. Work of clearing the ground has already begun, and the plant, according to the contract, will be in operation by October 1, 1909.

The new plant will be located just north of Alamo Heights on the International & Great Northern Railroad. The factory site embraces about thirty acres, and when improved with the factory, storehouses and dwelling houses necessary to the operation of the plant proper will be known as "Cementville." Material for the plant will be taken direct from this tract. The capacity of the factory will be 1,000 barrels a day.

F. W. Cook, vice-president of the company, says that a spur track from the International & Great Northern Railroad will be built to the factory site this month. Mr. Cook says that excavations for the factory will begin within the next few weeks.

Negotiations are now under way for the machinery. The movement looking to this enterprise was begun over twelve months ago. In the company backing the project are some of the leading business men of San Antonio. Some of the capital will also come from outside the state, F. W. Cook, Sr., of Evansville, Ind., for instance, being a large stockholder.

C. Baumberger, of this city, is president of the new company.

It is expected that the plant of the Atlantic Portland Cement Company, which is being built between Stockertown and Nazareth, Pa., will be completed January 1.

Starting Up Full Again.

HANNIBAL, Mo., Oct. 16.—The Atlas Portland Cement Company has been having a hard time filling its orders lately and are gradually starting up other kilns. By the first of February it is expected that every kiln will be again in operation. Since the Atlas secured the contract for furnishing the cement for the Panama Canal they have been besieged with orders showing that it "never rains, but it pours." An additional contract for 80,000 barrels has been let to them by the government recently.

New Canadian Cement Plant.

Forty-eight miles from Calgary, Canada, and surrounded by the small industrial town of Exshaw, named after one of the company's active directors, is situated the Portland cement mill of the Western Canada Cement & Coal Company. The plant, comprising fifteen buildings in all, of fireproof construction, has an approximate floor space of 3 1/4 acres and a daily capacity in finished product of two thousand barrels.

The plant has been built by men who have the utmost confidence in the future of the west of Canada and Alberta. The location was selected with particular reference to the demands of that growing section. The overwhelming amount of work ahead of the people of this province before the country is built up was shrewdly judged to present the best of markets for such a product as Portland cement.

The cement company owns over twelve hundred acres of limestone quarries from which the present plant will be supplied. The limestone is of high grade quality, averaging 98 per cent of carbonate of lime, and is quarried by means of electric drills.

The quarry cars are operated wholly by means of gravity, no power being used in handling, the loaded car being started for the tipple on a slight grade. On being dumped from the cars, the limestone goes down a steel chute into a No. 1 1/2 and a No. 4 Gates crusher, built by Allis-Chalmers Company, Milwaukee, and supplied through Allis-Chalmers-Bullock, Ltd., Montreal. On the way to the dryers the belt conveyor passes over the rock storage bins, which are capable of holding ten thousand tons of crushed rock, a two weeks' supply for the mill. The belt conveyor, on its return trip, passes underneath these bins and, in the event of the rock supply from the outside workings being cut off, bin gates are opened directly onto the conveyors which elevate the material and carry it to the dryer hoppers.

Having left the first system of belt conveyors, the rock is received by an automatic feeder into the dryers. These dryers are specially designed cylinders eighty feet in length set on a slight angle of one inch to a foot. At one end is a furnace and a fan is at the other. The fan draws the full heating power of the coal through the constantly rotating cylinders, thereby eliminating all moisture from the finely crushed rock.

Coming from the dryers the rock is carried on a steel chute to a separate set of conveyors, elevated and transferred to a set of grinding mills for fine crushing. From these grinders the now finely powdered substance is carried by a conveyor belt to the storage tank, whence it is drawn through the bin gates and carried to the mixing bins. At this stage of the process the chemist starts his analyses, on samples taken every half hour from each bin. A constant check is thus kept on the quality of the limestone that goes to the mixing troughs.

The next step in the process is the mixing of limestone with the shale. The Exshaw works are fortunate in having two separate and distinct qualities of clay to draw upon. Analyses are made of the clay as of the limestone and the results form the basis for calculating the percentages of each to be used. The clay passes through much the same process as the limestone. It is crushed several times. Two drying processes are given it, in order to eliminate even the faintest trace of moisture when it mixes with the lime. After the mixing of the two clays, the product is then ready for the final mingling with the limestone. It is next carried by a conveyor belt to four mixing hoppers, two for each ingredient, so that while one set is being mixed, the other is placed in readiness. The completed mixture consisting of approximately 20 per cent clay to 80 per cent rock is then carried by the conveyor to the battery of tube mills, sixteen in all, five by twenty-two feet, built by Allis-Chalmers Company and driven by means of electric motors.

The cement kilns are eighty feet long by twenty-seven feet in diameter and bottle shaped, after the design of the company's engineers. Powdered coal is used for fuel. The cement clinker is ground fine in another set of grinding mills, after which the finished product is sent to the finished bins, which have a capacity of one hundred and forty thousand barrels. Canadian Pacific Railway spur tracks are placed conveniently so that twenty cars may be loaded at once from the loading platform.

ROCK PRODUCTS

The power house equipment for this plant is typical of the best modern practice in every respect. The company has its own coal mines, comprising a property of three hundred acres.

The Western Canada plant represents an investment of approximately a million and a half dollars. Sir Sandford Fleming, K. C. M. G., is president and P. D. MacKinnon is general manager.

The second semi-annual dividend of 3½ per cent on the preferred stock of the Golden State Portland Cement Company, of Oro Grande and Los Angeles, Cal., was paid from the office of the company, 526 Citizens' National Bank Building, Los Angeles, on the morning of October 1. This dividend was earned from the shipment of lime rock to the sugar companies for clarifying purposes. The cement plant now in process of erection at Oro Grande is nearing completion and everything points to the commencement of the manufacture of cement early in 1909.

Experiments are being conducted by the Dakota Portland Cement Company, who are preparing to erect a cement plant at Chamberlain, S. D., to ascertain if lignite will not produce gas. The high cost of fuel has made it advisable to conduct experiments along these lines with the idea of finding cheaper methods of burning the clinker.

The Piedmont Portland Cement Lime Company, capitalized at \$1,000,000, is building a cement plant five miles from Rockmart, at Davitie, Ga., on the Seaboard Railroad. The plant will have a capacity of 2,000 barrels per day, and will be modern in every particular.

The foundations of the Lake Shore Portland Cement Company's plant at Sandusky, O., have been almost completed. Materials for the superstructure are arriving.

Work is progressing nicely on the Southwestern Portland Cement Company's plant at Dallas, Texas. They expect to commence operations with the beginning of the new year.

The Dexter Portland Cement Company, of Nazareth, Pa., have increased their capital stock from \$500,000 to \$1,000,000.

A. Engelhart, formerly with the Indianapolis Mortar & Fuel Company, of Indianapolis, has been appointed sales manager of the United States Portland Cement Company, of Bedford, Ind.

The Huron Portland Cement Company, of Detroit, Mich., has increased its capital stock from \$1,200,000 to \$2,000,000.

A crushing plant is being established at Lime Rock, a suburb of Le Roy, N. Y., which is the center of large limestone quarry interests. It is expected that about 100 men will be employed at the start at the crushing plant and the product of the crusher will be shipped to Caledonia to the Marene Portland Cement Company and converted into cement. The capacity of the plant is estimated to be about 2,500 barrels a day.

Something unique in road building is to be seen at the new \$240,000 macadam boulevard being built in the east end of Cleveland, O. Thousands of tons of stone are being used on the long roadway. Instead of carting the stone to the roadway, the contractors in charge of the work have laid three or four miles of track and convey regular sized freight cars, pulled by a yard engine, to the boulevard, where the stone is dumped, thus saving a big item in cost. Immense amounts of bluestone are being used for this work.

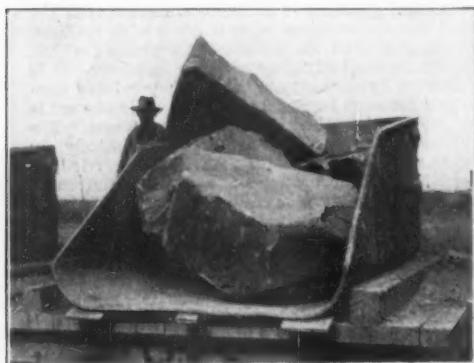


FIG. 1. A SKIP BUCKET SHOWING SIZE OF ROCK.

QUARRIES

Edison Giant Roll Crusher.

The Edison Giant Roll crusher is the direct result of a large expenditure of time and money in experiments by Thomas A. Edison to produce a machine that would radically reduce the cost of quarrying and crushing stone for commercial purposes. The success of his efforts has been amply demonstrated in the several installations of this kind which are now operating in this country.

In order to reduce the costs of quarrying, it is necessary to drill few holes far apart and blast the stone out in large sizes, thus saving materially in dynamite and in drilling. Then the stone must be loaded by steam shovels, thus reducing the cost of labor. In order to operate a quarry in the manner above described, it is necessary to have a crusher of such a size and capacity that it will take any and every size stone that the steam shovels can handle. This is what the Giant Roll crusher does.

The rolls are six feet in diameter by seven feet long, each roll weighing about fifty tons and revolving at a high speed. They readily take and crush stones weighing ten to twelve tons in a few seconds, reducing the stone to 10-inch diameter or less. The capacity of a set of these rolls is almost unlimited. In



FIG. 2. SEVEN TONS OF ROCK BEING DUMPED INTO GIANT ROLLS.

none of the present installations are there facilities for feeding the Giant Rolls to their capacity, but a conservative estimate of their capacity would be 6,000 tons in ten hours.

In one of the present installations, the quarry has an 80-foot face, and vertical holes are drilled with a well driller at the top of the cut. These holes are set twenty-five feet back of the face and twenty feet apart. The holes are loaded with dynamite and exploded by electric spark, frequently blowing down from 50,000 to 60,000 tons in one blast. Then two 90-ton steam shovels are set to work loading up stone as rapidly as possible, and these shovels are not capable of supplying the Giant Rolls to anything like their capacity.

The great advantage of the Edison Giant Roll crusher is its capacity and ability to crush practically any size stone delivered to it. The rolls will take 6-foot cubes or even larger, while the largest gyratory crusher has an opening of approximately three by six feet.

There are four of the Edison Giant Roll crushers in operation in this country and several others under construction. Two of the above have been in operation for several years and have made a most remarkable showing for efficiency and low cost of repairs. Of the crushers now in use, one is working on granite, two on limestone and one on cement rock at the Edison Portland Cement mill, where the rolls are manufactured.

Making Street Improvements.

ALLEGTON, PA., Oct. 16.—Street Commissioner Henry Yheulon is making good progress with the grading and improvement of Liberty Street, between Seventeenth and Twenty-fifth, connecting the asphalted section east of Seventeenth Street with the new State Road to Cetronia. The low parts are being filled up. Spalls are being dumped there from Kemmerer's stone quarry, and on this will be laid a top dressing of crushed stone, which will be rolled with a heavy steam road roller. It will be an all-winter job.

The Bassler Limestone Company, Lebanon, Pa., has increased its bonded debt to the amount of \$30,000.

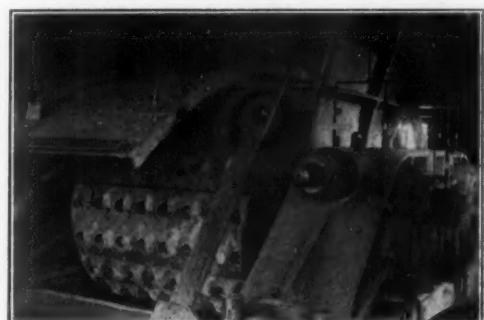


FIG. 3. ROLLS SHOWING WORKING FACE.

Extensive Crushed Stone Operators.

READING, PA., Oct. 16.—McQuade Brothers, who have extensive quarry operations at Leinbach's Hill, in the several years they have been working them, have disposed of about 225,000 tons of different sizes of crushed rock, and as the supply is virtually inexhaustible, they expect to be quarrying the stone and crushing it into commercial products for a number of years to come. They have a big crushing plant that has a capacity of 300 tons a day. The combined horsepower is seventy-five.

The quarries are working every day and the stone, after hundreds of tons are shattered with each blast, is ground into 2½, 1½, 1 and ¾-inch sizes and sold for railroad ballasting and road building and concreting. There is some grit disposed of for cement mixing and occasionally orders are filled for foundation sizes. The trade covers a 60-mile radius and includes Schuylkill, Lehigh and Lebanon valleys.

A member of the firm estimated that a space 300 feet long, 150 feet wide and 65 feet high, had already been annihilated and then came the question, which it was thought would be a "stumper" for Mr. McQuade: "How many tons of stone have been removed from that hill?"

The reply was: "Multiply 300x150 feet and the product by 65 feet and you'll get the number of cubic feet. Divide the product by 27 and you'll get the cubic yards, multiply the cubic yards by 2,300 and you'll have the pounds. Divide the product by 2,000 and you'll have the tons."

A person gets a little rusty in arithmetic after laying aside the school books for twenty years, but the figures we're thus: First set, 2,925,000; second set, 108,333; third set, 249,165,900; fourth and final set, 124,583 tons. Considering the big gap made in the elevation the latter quantity does not seem exaggerated. Dynamite tore loose all this limestone rock and there was a market for every ton.

Michael McQuade, of the firm, said: "That hill is practically exhaustless if operations are held to our present capacity. The tract extends to the Belt Line and Lebanon Valley railroads and covers hundreds of acres. We could drill six-inch holes, 40 feet into the veins, and charge them with 1,000 pounds of dynamite and the fall of rock would be terrific. But it would not be safe to conduct the operations on so vast a scale. The stone is of a fair quality and there is very little waste. We blast and mine scientifically and there is no danger. We expect a big improvement in orders next year, though we can't complain over what we've done during 1908."

Building a New Crushing Plant.

DETROIT, MICH., Oct. 17.—The Dunbar Stone Company has started operations on its new \$100,000 stone crushing plant, which will be located at River Rouge, on the property formerly owned by the Salliotte estate. This firm will utilize the products of the Dunbar-Sullivan Company, of Chicago. The last named company is engaged in bringing the stone blasted from the Lime Kiln Crossing to River Rouge. The stone is partly crushed and then turned over to the Dunbar Stone Company.

The latter firm will crush the stone for commercial and road purposes. The exterior work on the plant has been completed and the work of installing \$80,000 worth of machinery started. The company will cover several acres of ground. It will employ about fifty men when running full force.

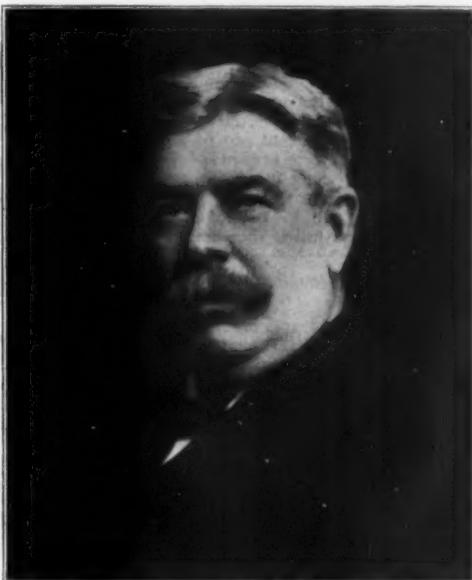
Running As Usual.

HILLSBORO, ILL., Oct. 19.—The Kiggins Stone Quarry's plant, which was partially destroyed by fire, has been entirely rebuilt and is operating as usual. They are furnishing two carloads of stone a day for ballasting the new interurban line between Hillsboro and Litchfield. As soon as there is room to work in the quarry a number of extra men will be employed and the crusher will be run to its full capacity.

BIG RACINE QUARRY.

Description of the Extensive Crushing Operations of the John O'Laughlin Stone Co.

One of the most prominent business men of Racine, Wis., is John O'Laughlin. His industry, thrift and business acumen have made his home town known to a large extent all over the Central North. He is president and manager of the Portland Granite Company, Waterloo, Wis.; of the Central Quarrying Company, Waukesha, Wis.; of the Waukesha Lime and Stone Company, Waukesha, Wis.; of the Waukesha Building Stone Quarries, and of the John O'Laughlin Stone Company, Racine, Wis. The product of these companies is sold mainly in Illinois and Wisconsin, and there is hardly a city, town or hamlet in these States that has not had dealings with genial John. Mr. O'Laughlin understands every detail connected with his many and intricate interests. He is a genius in designing and improving machines necessary to and used by not only his own companies but by many of those engaged in similar enterprises. We have before us a list of the designs and improve-



JOHN O'LAUGHLIN, RACINE, WIS.

ments made by him, over his own signature, which we give verbatim:

I perfected the present style of gyratory crushers by placing the counterbalance to break pin hub, condemning ball, head of shaft and quarter boxes (in spider) then in use and suggesting the present style and improvement of eccentric. Designing and planning plate No. 404-G, catalogue No. 465 of Allis-Chalmers Company.

Each of the above were suggested and designed by me when assistant superintendent of the Chicago Union Lime Works from 1881 to 1883, for Phyllis W. Gates, the originator of the gyratory crusher, and are still standard.

In 1892 I designed and erected at Grand Avenue and Ohio Street, Chicago, the Artesian Stone & Lime Company's plant as shown in Allis-Chalmers' catalogue No. 125, plate No. 223-G. I was senior member of the firm at the time.

In Allis-Chalmers' catalogue No. 125, plate 436-G, design and plan made and plant erected at Ives, Racine, Wis., by me in 1896, which I still operate. This plant for years was declared and advertised by the Gates Iron Works to be the most perfect in existence in every detail.

In the Austin Manufacturing Company's catalogue, page 42, this cut was designed and plant erected by me for one of our No. 8 crushing plants, the largest in the state of Wisconsin, equipped with this style screen.

Gates Iron Works, Allis-Chalmers and Austin Manufacturing Company have published and recommended my plans as noted above in each of their catalogues from the above mentioned dates to the present.

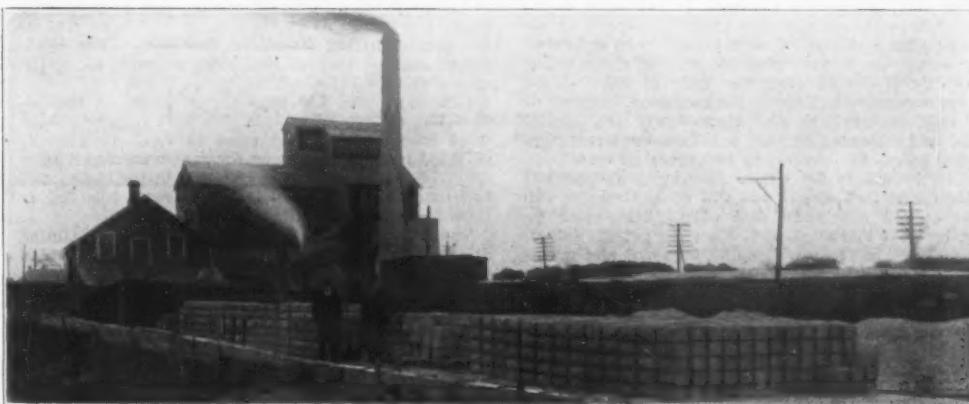
The pneumatic air rock drill (such as the little Jap and Hardsocg used for pony blasting in quarries) was put to use in this line by me, by converting a pneumatic air riveter to a stone drill. Negotiations made with Joseph T. Ryerson & Son, Chicago agents for the Chicago Pneumatic Tool Company of Detroit, Mich., and was used in my quarries for over one year before being put on the market. It has proven to be a great labor-saving device.

But the greatest of all modern improvement in crushing plants is the new concentric screen, designed and patented March 18, 1904, requiring but one-eighth the power to operate it, receiving but one-twentieth of the wear of the older style revolving screen, easily adjusted and can perfectly separate it into any number of sizes required, consequently that much more durable and at that proportionate cost to maintain.

Should any further testimonials for this screen be necessary we could refer you to any one of the one hundred quarrymen who have it now in use. Respectfully yours,

JOHN O'LAUGHLIN.

His Racine rock crushing plant is of special interest. 'Tis here that Mr. O'Laughlin resides and his personal supervision is over all. The quarry is located just outside of Racine, at Ives, and has been in active operation for the past eleven years. It is



CONCRETE BUILDING BLOCK ESTABLISHMENT IN CONNECTION WITH THE O'LAUGHLIN QUARRY AT RACINE, WIS.

of stratified limestone and has been worked to a depth of 110 feet. We give an illustration of the floor of this quarry, from which some idea of the magnitude of the operations can be conceived. This immense hole is about 600 feet in diameter. Formerly drilling was done only to the depth of twenty feet, twelve feet apart, and then blasted. Each bench was then cleaned off, the broken stone thrown into cars and elevated by cable to the crushing house. This necessitated a great deal of labor, time and expense. Recently Mr. O'Laughlin has inaugurated the plan of drilling the whole depth of the quarry, 110 feet, thirty-five feet from the face and forty feet apart, using one and one-fourth tons of powder at one blast, which loosens 7,000 cubic yards at each fell blow. This is a great saving, he assures us, amounting to almost 50 per cent. Three Keystone drills are used.

The tracks, which ramify the whole floor of the quarry, are arranged so systematically that although twenty trucks are constantly kept busy, only one turntable is necessary. These cars are attached to the cable, to which A. L. Bengtson, manager, has added economical improvements, and elevated to the crushing house, where they are automatically dumped into bins, capacity 4,000 cubic yards each. Four crushers are used: one McCully No. 8 of the Power and Mining Machine Company, one Austin No. 5 and two Gates No. 3.

The stone is broken into five sizes, varying in size from four inches to three-eighths of an inch, the larger sizes being used for macadam and the finer for concrete. The North-Western Railroad and the electric railway have tracks running directly under the storage bins, which are emptied into the cars by gravity. Fifteen hundred cubic yards can thus daily be disposed of. Besides the North-Western Railway

this plant has direct rail connection with the Wisconsin Central and the Chicago, Milwaukee and St. Paul; thus the entire surrounding territory can be readily supplied at the lowest possible freight rate.

A profitable side issue developed at this plant is the manufacture of concrete building blocks, made out of crusher dust, fine screenings and Portland cement. We give a view of the plant, showing some of these blocks ready for shipment.

The John O'Laughlin Stone Company was organized in 1897, and almost the entire stock is owned and controlled by Mr. John O'Laughlin, who is the president of the company. Joseph O'Laughlin, his son, is secretary.

The Waukesha Lime and Stone Company was incorporated in 1905 and the Central Quarry Company in 1906, and both of these companies have the same officers as the John O'Laughlin Stone Company.

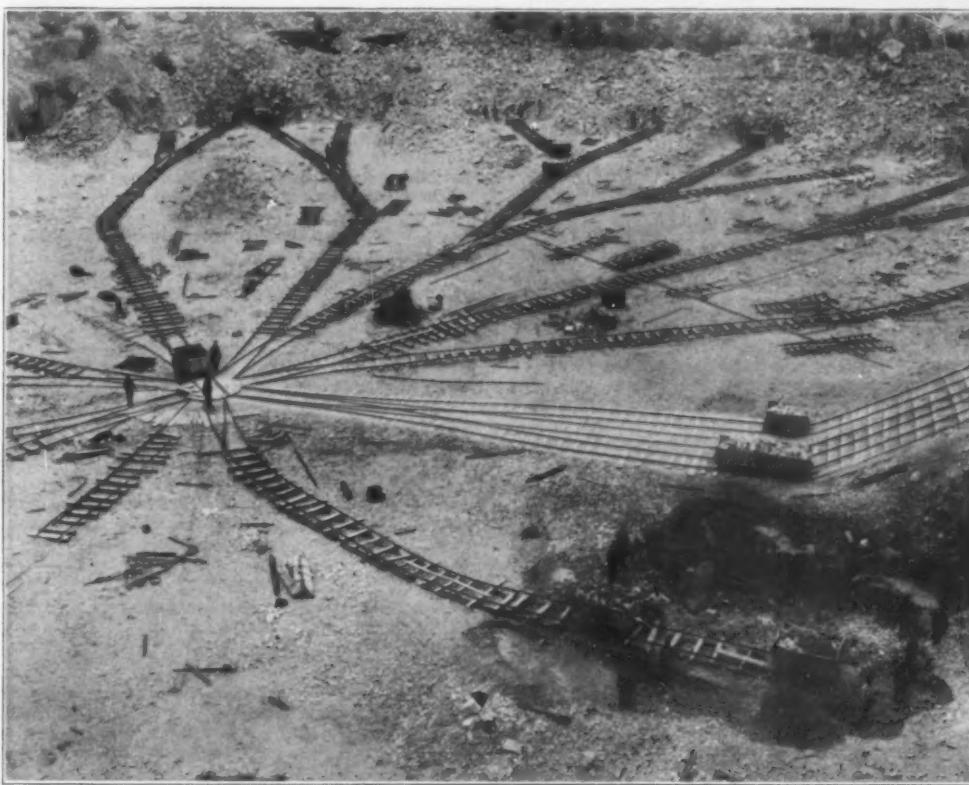
Mr. O'Laughlin's latest fad and pet is the John O'Laughlin screen, which is used at all of his plants and in hundreds of similar concerns all over the country.

No article describing him or the many interests with which he is connected would be complete without a description of this screen, nor is there anything more worthy of attention.

To quote his own words:

"Its capacity for perfect separation of stone crushed to three and one-half inches is unknown. We guarantee it will make perfect separation into five sizes of 2,500 tons in ten hours, and should, without any repairs or renewal of screens, separate 200,000 yards; this estimate is based on what has been done by this machine at my own quarry."

"Owing to the length of this screen, weight of stone and screens being above the bearing point or runnions, it requires about one-fifth the power to



FLOOR OF QUARRY OF JOHN O'LAUGHLIN STONE COMPANY, RACINE, WIS.

ROCK PRODUCTS

run it that it does the old style of revolving screen with a limited capacity, the capacity depending entirely on the condition of the material to be separated.

"Owing to the fact that the coarser stone is immediately separated from the finer in each of the different concentric screens, the increased diameter of the finer perforations and consequently the greater speed and screening surface, I believe the advantages of this screen are obvious to any practical man."

"All we ask is for you to thoroughly inspect our method, and feel sure if you will do so that you will come to the conclusion that others have come to, namely: that this machine is the most perfect screening machine in the world, easily adjusted and makes a larger variety of sizes of stone than any other machine."

"Its strongest features are its durability, great simplicity, light running, as well as its adjustability for successfully separating into different sizes granite, stone, coal, coke, sand, gravel or any other material requiring separation."

The John O'Laughlin screen is now being made solely by Johnston & Chapman Company, 1333-1345 Carroll Avenue, Chicago, Ill.

United States Limestone Production.

The value of the limestone quarried in the United States in 1907, exclusive of that burned into lime and of the large quantity used in the manufacture of Portland cement, was \$31,737,631—an increase of \$4,410,489 as compared with that of the output in 1906, and \$5,712,421 in excess of the value of the product in 1905. The large increase shown by the 1907 statistics was due chiefly to gains in the value of crushed stone and blast-furnace flux.

Rank of the States.

A production of limestone for one or more of the various purposes to which this rock is applied was reported in 1907 from all but seven of the States and Territories of the Union. The chief producing States were, in order, Pennsylvania, Illinois, Indiana, Ohio, New York and Missouri, each of which reported stone valued at more than \$2,000,000. In 1906 the rank of these States was Pennsylvania, Indiana, Ohio, Illinois, New York and Missouri. The combined output of these six States in 1907 amounted to \$21,839,006, or 68.78 per cent of the total for the country. In 1906 these States produced \$18,751,122 worth of limestone, or 68.62 per cent of the total. The increase for these six States would account for more than \$8,000,000 of the total limestone gain, but it must be borne in mind that the Indiana output did not increase, but decreased somewhat in value. Other States reporting a limestone output valued at more than \$500,000 were Wisconsin, Kentucky, West Virginia, Kansas, Michigan, Minnesota, Alabama, Iowa and Colorado. States showing notable increases in value of product in 1907 as compared with that of 1906 were Alabama, Arizona, California, Colorado, Illinois, Missouri, New York, Ohio, Pennsylvania, West Virginia and Wisconsin. The increase in Alabama and Arizona was in the value of furnace flux. In California there was an increase in flux and also in the quantity of stone reported as used by sugar factories. The Colorado increase was in the value of flux and in more complete returns for stone used in sugar factories. The large gain in Illinois—\$832,015—was due to the greatly increased demand for crushed stone. This State furnished in 1907 nearly 19 per cent of the total value of the limestone used for crushed stone in the United States, and 11.68 per cent of the total value of all crushed stone in the United States.

Production According to Use.

The largest item of value of the limestone production of the United States is for stone crushed and used for road making, railroad ballast, concrete, etc. In 1907 the value of this material amounted to \$13,675,453, representing 23,532,897 short tons. The increase in 1907 over 1906 was 3,246,308 short tons in quantity and \$2,602,188 in value. The average price per ton in 1907 was 58 cents, as against 55 cents in 1906.

Next to crushed stone the largest use of limestone is for furnace flux, the value of the material used for this purpose in 1907 amounting to \$9,144,489, as against \$7,612,692 in 1906, an increase of \$1,531,797. These figures represent outputs of 17,119,297 long tons in 1907 and 16,077,202 long tons in 1906, a gain in the later year of 1,042,095 long tons. The average value per ton increased from 47 cents in 1906 to 53 cents in 1907, the increase in price, according to the dealers, being due to increased cost of production.

Limestone used for building purposes, including rough and dressed stone sold by the producers, was valued in 1907 at \$4,580,226, as against \$5,098,631 in 1906, a decrease of \$518,405. Indiana ranks first

in the production of limestone for this purpose with an output valued at \$2,378,008, or 51.92 per cent of the total building limestone for 1907. The State second in rank in 1907 was Missouri, with an output valued at \$538,114.

Limestone used for paving was valued in 1907 at \$545,300, as against \$531,275 in 1906; curbing limestone increased in value from \$428,615 in 1906 to \$378,853 in 1907; limestone for rubble increased from \$994,275 in the earlier to \$1,067,445 in the later year; and limestone for riprap increased from \$550,385 in 1906 to \$620,328 in 1907.

The value of the limestone used in the United States in 1907 for purposes other than those noted above was \$1,324,601, this classification including stone quarried and used by alkali works in New York and Michigan in the manufacture of alkaline salts; stone sold to glass factories in Pennsylvania, Ohio, Missouri, Indiana, Illinois and New York; stone sold to paper mills, to farmers for burning into lime to be used as fertilizer, to carbonic acid plants; and also some stone sold for the making of whiting and mineral wool and for many minor uses.

Source of Statistics.

The statistics contained in the foregoing paragraphs were collected by A. T. Coons, of the United States Geological Survey, and are published by the Survey in an advance chapter from "Mineral Resources of the United States, Calendar Year 1907," on the stone industry in 1907. This chapter is now ready for distribution and may be obtained by applying to the director of the Geological Survey at Washington, D. C.

Foster & Creighton Company.

NASHVILLE, TENN., Oct. 16.—The Foster and Creighton Company are among the largest operators in crushed stone, fluxing stone ballast, oolitic stone, sawed and mill blocks in the South. This company has just acquired another quarry, which gives them a total capacity of 2,000 cubic yards of crushed stone per day, and besides a large capacity in sawed and mill blocks. In addition to their extensive operations as quarrymen the Foster and Creighton Company figure among the largest general contractors in the country. They operate the largest oolitic limestone saw mills in the South on their property at Rockwood, Ala., formerly known as the T. L. Fosick quarries, and recently acquired by them. They also have stone crushing plants at Newsom Station and Columbia, Tenn., Darlington and Rockwood, Ala. R. T. Creighton is president; John Early, vice-president, and C. C. Foster, secretary and treasurer.

Crushed Granite for Paving.

WATERLOO, WIS., Sept. 29.—Jos. M. Druecker, secretary and superintendent of the Portland Granite Company, makes the following observations: "We see no reason for complaint with the volume of business this season. 'Get out and stir up business' should be the motto of every party who wants for orders. Our line pertains exclusively to the production of crushed granite for street paving and sidewalk purposes. We operate the largest single plant in this specialty in the West. We have furnished some material for the artistic treatment of cement mortar exteriors, which is new and very striking, as well as durable. This may be a useful suggestion for some of the designing architects further south, as its introduction in this region has proved to be very popular. The treatment of surfaces consists of employing crushed granite or quartz of the sizes known as No. 3 or No. 4 by the crusher operators as a dressing in the following manner: After the cement mortar has been applied and before it has taken its initial set the granite particles are thrown against the smooth surface in such a way as to partially imbed them in the mortar. This method of applying the granite prevents its being coated with cement and sand and preserves its sparkling appearance. The effect of the sun's rays upon a crystal palace could not exceed the beauty of a surface finished in this way with our Portland granite. In this season a great number of residences have been erected in Madison, Wis., using this new treatment, and every one of them is much admired. There are also several jobs of this kind in Milwaukee and many smaller towns. It is the most attractive exterior treatment that can be obtained at anything like such a low price."

Very Fine Aggregate for Concrete.

MONTREAL, QUE., Oct. 1.—T. A. Morrison & Co., with offices at 204 St. James Street, and quarries in the immediate environs of the city, are the leading producers of crushed rock for paving, roofing, macadam and concrete purposes in this locality. They operate both a limestone and a trap rock quarry, using a No. 6 Austin for breaking the limestone and

three No. 5 Champion jaws for crushing the trap rock. Their trap rock is excessively hard for even this type of stone, and Sturtevant rolls have been introduced as a means for further reducing it to the smaller concrete sizes. Mr. Morrison made the Rock PRODUCTS man feel very much at home in a foreign land. He exhibited some specimens of his crushed sizes for concrete—about the finest it has ever been the pleasure of the writer to inspect. Concrete contractors in and about Montreal prefer limestone at the price rather than pay for the difference in value of such crushed trap. Such goods always puts the value into the finished concrete, and specifications would be easily secured at the difference if the matter of quality was better understood and appreciated. This concern also extensively manufactures "Roman stone," in which they use the pulverized product of their marble limestone quarry and Portland cement. Numerous fine specimens of window caps, quoins and the like are shown at the city offices. By the way "Roman stone" has made good in many localities throughout the Canadian provinces. Several fine bank buildings and residences have been built of it exclusively, while the amount of this product that has been used for ornamentation of brick work is very considerable. High-grade artificial stone is popular in spite of the fact that natural stone of many varieties abounds.

Issue Instructive Circular.

PIQUA, O., Oct. 17.—The Statler Stone Company, large producers of crushed stone as well as stone for building purposes, issue a descriptive circular highly educational in its character, showing the uses to which the products of their plant can be adapted. Circulars of this kind do much toward educating the public and those who purchase this kind of material. Realizing how hard a subject it is to advertise the Statler Stone Company are to be congratulated upon the thoroughness with which they have covered the subject.

Can Make Prompt Shipments.

ST. LOUIS, MO., Oct. 18.—Secretary John S. Roper, of the Grafton Quarry Company, with offices in the Wright Building, writes us that their quarries at Grafton, Ill., are in first-class condition and have not shut down during the so-called stringent times. These quarries are located in the southern part of the state and rank among the best. Mr. Roper says they are willing and anxious at all times to fill promptly all orders they receive. These facts are well-known to all architects, builders and contractors within their territory. They also have an abundant supply of materials. Orders are all they lack. "It is the 'other fellow' that wants to get a move on him," says Mr. Roper. "Just as soon as he places his order for material it will begin movement to its destination without delay. Prices are somewhat below what might be termed average or fair. There never was a time to build when material could be obtained at such equitable prices or delivered with such promptness as the present."

Awarded Large Contracts.

PORLTAND, ME., Oct. 17.—The Munjoy Gravel Company have been awarded the contract for the gravel and crushed rock for the foundation of the new Federal court house. This company also has the contract to furnish 6,000 tons of crushed stone and gravel for the new Baxter Building. Some other large orders recently booked by this company are 250 tons of gravel for the county court house and 200 tons of crushed stone and gravel for the new electrical building on Newbury Street, making a total of nearly 500 carloads already contracted for and to be delivered before January 1. The reason for the extraordinary demand for crushed stone and gravel is on account of the rapidly increasing demand for fireproof buildings, made of concrete.

F. B. Spear & Sons, St. Paul, Minn., have completed plans for the opening of a quarry just outside the city limits, for crushed trap rock for road-building purposes.

The Southern Mineral and Land Company expect to put in an extensive crushing plant at Winnfield, La., as soon as the Marble Quarry Railroad at this place is completed, so that the necessary machinery can be transported to the location.

The Hudson Highland Quarries Company, Cold Spring, N. Y., has been incorporated to quarry and crush stone, deal in stone, brick, lime and cement. Capital, \$100,000. Incorporators: Clarence H. Sara, William H. Truesdell and L. Bennett Southard.

The Columbia Crushed Rock Company has been incorporated at Portland, Ore., with a capital stock of \$10,000. The incorporators are R. J. Moylan, J. T. Moylan and R. W. Walker.

The Kettle River Quarries Company, of St. Paul, Minn., has increased its capital stock from \$500,000 to \$750,000. George W. Bester is president and Frank M. Barnard, secretary of the company.

Asa Goddard, former secretary of the Cleveland Automobile Club, Cleveland, O., has been engaged as engineer and superintendent for the Wadsworth Stone Company, of Pittsburg. Mr. Goddard has a lot of practical knowledge of road building and has been assigned by the company to take care of its contract for the four-mile macadam roadway which is being built at Euclid Avenue just east of the city of Cleveland.

Barney Ortman, Minster, O., recently hauled six big loads of crushed stone for the repairs at the reservoir in Laramie.

The Doles & Shepard Company have awarded the contract for their new stone crushing plant at Gary, Ill., on the north side of the drainage canal, on the Chicago, Illinois & Western Railroad, to the McDonald Engineering Company, 553 Monadnock Block, Chicago. The buildings will be 700 feet long and 90 feet wide, of reinforced concrete construction. They are working three shifts night and day and expect to have the concrete in by the first of December and the whole plant under roof by the first of January. Over 2,500 horsepower will be used in the operation of the plant, and it will be one of the largest plants of its kind in the country. The cost is estimated at \$300,000.

A quarry has been opened and a plant installed for quarrying and transporting the stone used in rip-rapping the sides of the reservoir at Washington, D. C., on which extensive improvements are being made. Major Spencer Crosby is the engineer in charge of the district who has the work in charge.

Through Commissioner A. L. Rutherford, the King County commissioners of Seattle, Wash., have purchased of A. W. Pratt the Pratt basalt quarry, to be used as the county source of supply for rock to be used in macadam road. A rock crusher, lately in use in the crushing of gravel on the Snoquahine river, will be moved to the quarry at once, and the county will begin getting out material for road work under construction, and planned for next spring. A Northern Pacific spur taps the quarry and makes transportation of the crushed rock an easy problem.

Henry E. Hughes and Warren M. Hill, of Boston, have leased the plant of the C. M. Newton Trap Rock Company, Little Rock, Ark., for a term of twenty years. The lessees have subleased the plant to the Arkansas Trap Rock Company, recently organized in Boston.

The Colton and Nedrow Company, Mt. Vernon, Ia., have installed a new rock crusher. The city has contracted for 300 tons of crushed rock with which to repair the streets. The crusher has a capacity of thirty tons a day.

Several carloads of crushed stone, which is a part of a large shipment from North Cohasset, has been received at Fall River, Mass., to be used as a top dressing for the macadamized road between Creek bridge and Slade's Ferry bridge.

The Hagerstown Macadam Company have erected another crusher at their quarries, Maple Avenue, Hagerstown, Md. They recently received an order for one thousand tons of stone from the Williamsport Bridge Company.

The International Contract Company, Tukwila, Wash., has started negotiations for the purchase of a tract of land on which it plans to open a stone quarry. The company will build a mill for crushing rock to be used in paving and road building.

A charter has been granted to the Merion Lime and Stone Company, Norristown, Pa., which was petitioned for by Henry A. Gathrop, Montgomery Evans, Adam Scheidt and John M. Dettra. The company will operate in the township of Upper Merion on a tract purchased of the Pennsylvania railroad. The capital stock is \$60,000.

The Rockland-Rockport Lime Company, Fuller Building, New York City, has published an interesting pamphlet entitled, "Liming of Soils and Spraying," which will be sent free to interested parties upon request. The fall is an excellent time to apply lime in order that it may assimilate with the soil, and the Rockland-Rockport brand is put up especially for this use.

The Templeton Lime Company, Chicago, have increased their capital stock from \$2,500 to \$25,000.

The Mills-Darragh Lime and Cement Company, Little Rock, Ark., has been incorporated with a capital stock of \$25,000. The incorporators are T. R. Mills, F. J. Darragh, F. K. Darragh and T. A. Darragh.

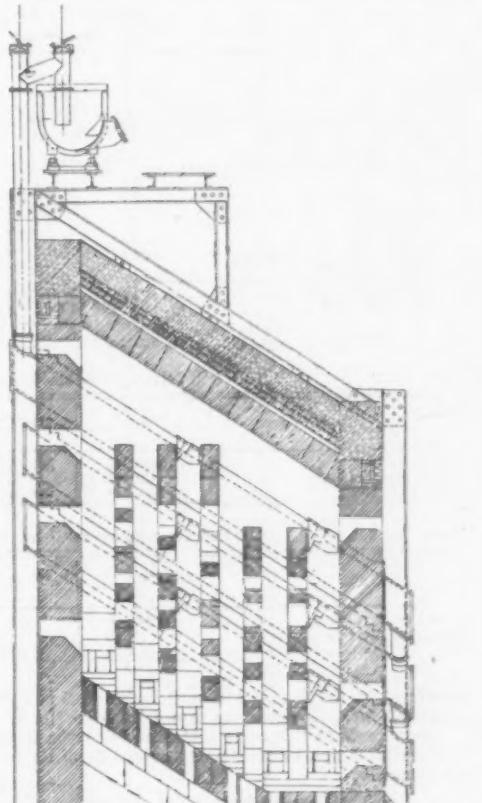


Limestone Produces Gas.

In the June number of ROCK PRODUCTS was published a short account of the discovery of a process for making gas from limestone. This process of making a gas as described in the article was the cause of hundreds of inquiries being made by large corporations throughout the world as far away as Cape Colony, South Africa, all wanting further information regarding the progress of the invention. In order to furnish the desired information to the readers of ROCK PRODUCTS a representative was dispatched to interview the inventor of the process personally and learn the facts regarding what appears to be a most wonderful invention, if the claims made have been fully proven.

Our representative was informed by the inventor of the process, Prof. Chas. H. Rider, at his laboratory in St. Louis, that the process and retorts and furnaces were protected by three United States patents and was patented in all the leading foreign countries, and that all countries, except Canada and Cuba, had been leased to large corporations. The United States patents are being controlled at present by the Lime Rock Gas Company, a new corporation with home offices in Chicago and a branch office in St. Louis under the management of Mr. Thomas M. Ambler, secretary and treasurer of the company.

This company has a plant nearly completed to be operated for the St. Louis City Water Works, and they expect to have the plant in full operation some time during the latter part of the present month. The builder and superintendent of the new plant, Mr. Maguire, has had over forty years' experience in gas



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manufacturing, and he fully endorses the Rider process of making gas from limestone, and says he burnt limestone in a similar retort in 1865 with great success, but he failed to discover at the time he was making such fine lime that there were thousands of feet of gas passing into the air that are now destined to furnish the fuel, light, heat and power of the world.

It has been thoroughly proven by the best experts of the country that 15,000 to 16,000 cubic feet of gas of a calorific power testing 330 British thermal units per cubic foot and 1,125 to 1,140 pounds of a superior grade of burnt lime testing 98 to 99 per cent calcium oxide, is produced from a ton of lime rock; and that the cost of producing a ton of lime by this new process is less than any known kiln method, leaving absolutely free of cost about 27,000 cubic feet of gas, which can be used in the gas engine for power to generate the electricity to light and heat our homes as well as to furnish the motive power for electric railways.

The professor has made various tests of the gas on the gas engine attached to a dynamo, the line from which was provided with specially adjusted meters registering a single watt. This test showed that the gas from a ton of lime rock would produce 300 kilowatts of electricity or nearly 500 horse-power hours.

The lime rock used by the Colorado Lime Company for making white lime was tested by the new process with a result that the caustic lime tested from 10 to 20 per cent more calcium oxide and was much whiter than that produced by the company's kilns, which were wood fired.

It has been known for several years that the greatest difficulty encountered in the manufacturing of a perfect sand lime brick was caused by using impure lime of low causticity. This great difficulty is now removed by the new process of making lime and we may expect to see, in the very near future, a big increase in the sand lime brick industry.

The sugar industries of the country, as well as the sand lime brick manufactories, will be highly benefited by the new discovery, as both require a perfectly pure lime in order to produce a high-class material.

Many scientists in all parts of the world believe that the discovery will make limestone the great source of motive power of all the industries and eventually revolutionize the world's work.

The New York Lime Situation.

NEW YORK CITY, Oct. 1.—Participating in the movement toward normal levels, lime is the subject of a gradually improving demand. The new work is accumulating to such an extent that it is beginning to require a very regular supply. Prices long ago reached bottom levels and for standard brands have not notably changed. The Rockland-Rockport Company has made no change in two years.

Clifford L. Miller, of the Clifford Miller Company, 110 East Twenty-third Street, in speaking of conditions, said: "The lime market outside of New York has been very good. Our West Stockbridge plant is running under full time, so that in order to take care of our usual New York business, when it comes, we are planning to double up on our output this fall." This company is furnishing two hundred tons of lime for the Fifth Avenue Building.

Keeping Nitrate of Lime in Storage.

Von Feilitzen observed some years ago that this fertilizing material changes in storage to the extent that it is attacked by dampness and baked together in hard lumps, when a loss of nitrogen takes place. But by keeping nitrate of lime in heavy wooden casks instead of in sacks a loss of nitrogen of only 0.62 per cent was shown between October 5 and April 7, as against 2.16 per cent of the original quantity of nitrogen at hand. Otherwise it had suffered no change owing to this careful packing, it showed no lumps and was very easily spread. From this it would appear that by carefully packing fertilizers the same may be kept for several months without depreciation.—Translated from *Chemiker Zeitung*.

Products of Uniform High Quality.

AUSTIN, TEX., Oct. 15.—The product of the Austin White Lime Company, manufacturers of Austin white lime and dealers in Portland and Roman cements, plaster hair, sewer pipe, fire brick and other building materials, is used in many parts of the South and Southwest in preference to any other because of its uniform high quality. The reason for this is that the stone used in the manufacture of Austin white lime is of the highest quality and the plant of the company is one of the most modern in this section of the country. The plant has a daily capacity of 750 barrels and has been in operation for about twenty-five years. Officers of the company are A. F. Martin, president; J. A. Martin, vice-president and general manager, and A. H. Robinson, secretary and treasurer. Offices of the company are maintained at 415 Congress Avenue.

ROCK PRODUCTS

Lime Statistics.

The value of the lime produced annually in the United States has increased nearly 100 per cent in the last twelve years; that of the sand-lime brick has increased nearly 700 per cent in the last five years. The rapid growth of the two industries led the United States Geological Survey two years ago to segregate their statistics from those of the stone and clay-working industries, with which they had formerly been naturally connected, and to publish them as a separate chapter in the annual volume on mineral resources. The third such separate report has just been issued by the survey as an advance chapter from "Mineral Resources of the United States, Calendar Year 1907," by E. C. Eckel.

The lime production during the first eight or nine months of 1907, according to Mr. Eckel, was heavily in excess of the production during the corresponding months of 1906; but shutdowns during the latter part of the year reduced the output by 113,288 tons, the total being 3,084,799 tons in 1907, as against 3,198,087 tons in 1906. The higher prices that prevailed during the earlier part of the year, however, brought the value of the 1907 product up to \$12,640,512, as against \$12,480,653 in 1906—an increase of \$159,859. The average price per ton in 1907 was \$4.10, as compared with \$3.90 in 1906. In the later year 899 lime burners reported operations; in the earlier 979.

The following table gives the value of the total lime production in the United States for the years 1896 to 1907, inclusive:

Value of Total Production of Lime in the United States, 1896-1907.		
1896.....	\$6,327,900	
1897.....	6,390,487	
1898.....	6,886,549	
1899.....	6,983,067	
1900.....	6,797,496	
1901.....	8,204,054	
1902.....	9,335,618	
1903.....	9,255,882	
1904.....	9,951,456	
1905.....	10,941,680	
1906.....	12,480,653	
1907.....	12,640,512	

Detailed statistics of lime production during 1906 and 1907, by States, are given in table No. 1:

Production of Lime in the United States in 1906 and 1907, by uses, in short tons.		
Use.	Quantity.	Value.
Building lime.....	2,506,452	\$10,247,579
Hydrated lime.....	120,357	479,079
Sand-lime brick.....	19,737	85,845
Slag cement.....	175	500
Quicklime brick.....	1,003	4,391
Sugar factories.....	28,678	128,547
Fertilizer.....	300,024	713,336
Steel Works.....	11,517	46,100
Paper mills.....	53,266	197,277
Glass works.....	20,558	62,216
Ammonia works.....	2,049	5,643
Water purification.....	2,965	10,950
Glue factories.....	1,050	3,000
Chemical works.....	79,932	282,400
Acetate lime.....	2,400	12,000
Lead smelters.....	10,750	55,375
Sheep dipping.....	70	525
Tanneries.....	7,472	37,780
Alkali works.....	2,450	9,000
Ground lime.....	18,627	58,220
Cyaniding plants.....	2,222	13,890
oap.....	6,000	27,000
Total.....	3,197,754	12,480,653

1907.	Quantity.	Value.
Building lime.....	1,762,784	\$7,738,211
Hydrated lime.....	140,135	657,636
Alkali works.....	10,747	36,355
Chemical works.....	173,422	691,096
Paper Mills.....	153,681	572,838
Sugar factories.....	24,640	110,940
Tanneries.....	35,135	144,425
Fertilizer.....	269,608	712,410
Dealers—uses not specified.....	396,337	1,640,473
Other purposes.....	118,310	436,128
Total.....	3,084,799	12,640,512

On comparison of these statistics it will be seen that they are of service primarily for determining the relative importance of the structural and of the chemical uses of lime. The figures for 1906 showed that the lime sold for structural uses—building lime, hydrated lime, for sand lime brick manufacture, for slag cement, etc.—amounted to 2,647,724 short tons out of a total lime production of 3,198,087 tons, leaving 550,363 tons for the various chemical industries in which lime is used. According to the reports for 1907, on the assumption that most of the lime handled by dealers was marketed as building lime, the total lime used for structural purposes was apparently about 2,300,000 tons; hence about 785,000 tons were used in the chemical industries.

The Fuels Used in Burning Lime are given in Table No. 2.

The total quantity of the various kinds of fuel

Table No. 1.

State.	Quantity.	Value.	Average price per ton.	Number of operators.	1906		1907		Number of operators.
					Quantity.	Value.	Quantity.	Value.	
Alabama.....	92,403	\$341,627	\$3.70	11	85,909	\$368,902	4.29	\$4.29	12
Arizona.....	14,084	96,470	6.85	3	12,825	84,262	6.66	5	5
Arkansas.....	30,348	121,963	4.02	8	33,472	159,566	4.77	11	11
California.....	73,941	601,557	8.19	20	84,981	691,851	8.14	27	27
Colorado.....	6,595	32,020	4.86	3	5,679	28,798	5.07	3	3
Connecticut.....	90,457	411,853	4.55	6	81,433	358,052	4.39	7	7
Florida.....	18,362	71,382	3.89	3	18,349	70,826	3.85	6	6
Georgia.....	18,903	72,840	3.85	5	5,964	49,022	8.22	4	4
Idaho.....	5,932	39,840	6.72	3	124,784	559,305	4.48	22	22
Illinois.....	121,546	534,118	4.39	24	107,964	335,151	3.10	15	15
Indiana.....	114,819	353,648	3.08	17	19,944	84,011	4.21	8	8
Iowa.....	17,497	78,366	4.48	11	4,124	18,131	4.40	6	6
Kansas.....	1,893	10,217	5.40	6	4,670	14,945	3.20	8	8
Kentucky.....	9,784	28,081	2.87	8	159,494	747,947	4.68	7	7
Maine.....	228,208	1,066,275	4.67	9	103,423	324,316	3.14	41	41
Maryland.....	127,863	350,460	2.74	48	119,072	506,778	5.01	10	10
Massachusetts.....	119,267	563,100	4.72	10	65,822	276,534	4.20	12	12
Michigan.....	68,133	281,465	4.13	13	20,450	88,900	4.35	4	4
Minnesota.....	19,920	93,555	4.70	4	190,300	87,970	4.61	27	27
Missouri.....	207,334	916,693	4.42	28	4,217	25,340	6.01	7	7
Montana.....	4,745	30,098	6.34	7	34,043	167,159	4.91	22	22
New Jersey.....	42,714	187,978	4.40	25	485	3,866	7.97	4	4
New Mexico.....	1,790	9,975	5.57	4	137,111	652,205	4.76	39	39
New York.....	114,620	519,855	4.54	37	5,000	24,010	4.80	4	4
North Carolina.....	5,896	41,468	7.03	5	322,917	1,239,912	3.84	36	36
Ohio.....	331,972	1,100,133	3.31	39	4,096	39,738	9.70	6	6
Oregon.....	3,934	32,388	8.23	9	655,166	2,075,842	3.17	366	366
Pennsylvania.....	624,060	1,857,754	2.98	425	3,673	24,893	6.78	4	4
South Dakota.....	3,666	23,930	6.53	5	66,699	263,323	3.95	16	16
Tennessee.....	83,047	307,165	3.70	16	38,101	186,372	4.89	9	9
Texas.....	41,183	192,527	4.67	8	12,671	68,085	5.37	13	13
Utah.....	17,461	86,518	4.95	12	47,369	254,281	5.36	12	12
Vermont.....	32,755	167,393	5.11	9	115,155	447,307	3.89	26	26
Virginia.....	104,468	382,083	3.66	24	35,913	238,568	6.64	9	9
Washington.....	59,094	347,924	5.89	8	107,895	290,298	2.69	34	34
West Virginia.....	98,447	257,333	2.61	48	219,644	733,996	3.34	46	46
Wisconsin.....	225,633	768,808	3.41	48	282	3,220	11.41	3	3
Wyoming.....	396	4,265	10.77	3					
Oklahoma (Indian Territory).....	14,917	96,538	7.70	7	25,704	166,828	7.86	8	8
South Carolina.....			4.87					6.80	
Total.....	3,198,087	12,480,653	3.90	979	3,084,799	12,640,512	4.10	899	

Table No. 2. Kind and quantity of fuel used in burning lime in 1906 and 1907.

Kind of fuel used	1906.	Quantity of fuel.	Quantity of lime burned.	Number of plants using.	1907.		Number of plants using.
					Quantity of fuel.	Quantity of lime burned.	
Wood, cords.....	412,359	921,073	285	333,665	618,005	190	
Shavings, short tons.....	22,945	43,677	3	9,827	20,149	2	
Coal, short tons.....	357,735	1,150,220	549	520,726	1,287,855	487	
Coke, short tons.....	2,160	9,889	7	3,436	30,535	7	
Oil, barrels.....	24,486	16,921	5	26,374	15,815	0	
Mixed fuels.....	236,435,000	60,760	6	157,721,000	28,510	7	
Gas, cubic feet.....							
Wood, cords.....	71,282	420,411	76	76,000			
Wood, short tons.....	95,960	300	1	113,335	352,877	75	
Wood, cords.....	300	150	1	8,636	55,795	7	
Coke, short tons.....	150	1,120	1	12,824	66,356	4	
Coal, short tons.....	2,000	18,286	1	198,602,000			
Coal, short tons.....	500	9,288	0	3,500			
Coal and coke, short tons.....	9,288	28,685	9	4,772	12,657	1	
Gas, cubic feet.....	37,386	128,944	9	2,402			
Total.....			951		2,488,554	789	

Table No. 3. Total fuel consumed in burning lime in 1906 and 1907.

	1906.	1907.		1906.	1907.
Wood, cord.....	0.448	0.540	Coke, short tons.....	0.219	0.113
Shavings, short ton.....	.525	.4			



Progressive Organization for Plasterers.

NEW YORK, Oct. 14.—The International Employing Plasterers' Association No. 1 held its regular monthly meeting at the Builders' League, in One Hundred Twenty-fifth Street this evening with a very full attendance. Routine business was transacted and the work of the active committees was cordially approved. T. A. Mannion, president of the association, presided, and practically every one of the 125 members took part in the proceedings. A representative of Rock PRODUCTS, which is the official organ of the association, was present and was cordially received.

The movement to extend the benefits of the association to employing plasterers in all of the cities of the country has met with universal approval. Secretary John Waters reported a number of replies to the association literature that has gone out to the master plasterers of the country, and it is his opinion that it will only take a little intelligent promotion to bring the matter to the attention of the members of the trade to secure prompt co-operation all over the country.

While the meeting was in progress, a message of greeting was received from A. Frazer, the chairman of a meeting of employing plasterers then in session in Brooklyn, for the purpose of organizing the Employing Plasterers' Association No. 2 in that city. He stated that fourteen of the most progressive plastering concerns of Brooklyn were represented and that they had effected a temporary organization. The meeting was held in Garfield Avenue, Richmond Hill, Long Island. They requested the officers and members of No. 1 to send a committee to meet with them at their next meeting for the purpose of getting a constitution and bylaws drawn up in uniformity with that under which No. 1 has accomplished so much progress in the matter of improving the plasterers' conditions of doing business.

ROCK PRODUCTS is convinced that these enterprising gentlemen have worked out a good practical system of interchange of information and otherwise co-operating for the general uplift of the plastering trade as a business. If contracting plasterers who are interested in the organization movement will communicate with this office, we will be glad to put them in line for organizing an association in their own locality in line with and by the co-operation of the parent organization in New York. The educational features alone, that are only small part of the benefits, will be worth many times the trouble and expense to any enterprising plasterer, because this means the opening of new lines of work to the plastering trade with money in it for the contractor. Let us hear from you.

One day last week, while in New York, ROCK PRODUCTS ran plump into Thomas Mannion, the prominent plasterer contractor, in company with Wm. Kind and Harry K. Hobart, of the local force of the United States Gypsum Company. Of course the party numbered four thereafter until the adjournment of the plasterers' meeting, which brought matters up to the owl car schedule in the subway. Now Billy Kind is a son of Richard Kind, of the Toledo Builders' Supply Company, and has a touch of the pater's wit. He remarked that one of the principal delights of the subway to him is the fact that one cannot notice how late the hour grows by electric lights. But then it really doesn't matter to a bunch of plasterers what time they adjourn. By the way, plaster business is good in New York at the present time because there are a lot of jobs that are being pushed to completion and they are all bragging about the beautiful weather that helps the progress of plastering not a little.

Eighth Biennial Convention.

NEW ORLEANS, LA., October 7.—The eighth biennial convention of the Operative Plasterers' Association held a ten days' session here. The convention opened September 28 and closed October 6. There were 125 delegates present from all parts of the country.

Gypsum Statistics.

The U. S. Geological Survey has issued a bulletin on the subject of gypsum and gypsum products for 1907. It contains much valuable information on the subject. Rock gypsum is produced in sixteen of the United States and in one territory besides Alaska. In most of the producing localities the material is mined from underground workings, but in Oklahoma it is still quarried, since outcropping ledges still afford available rock. Gypsum deposits, owing to their nature, are worked in the open, and where this material is of

good quality it is regarded as particularly valuable on account of the low cost of excavation.

The bulk of the gypsum produced in the United States, as well as in foreign countries, is manufactured by grinding and partial or complete calcination into the various plasters, such as plaster of Paris, stucco, cement plaster, flooring plaster, hard-finish plaster, etc. A steadily increasing quantity is being used as a retarder in Portland cement. Refined grades of plaster are used in dental work, also as cement for plate glass during grinding, and as an ingredient in various patent cements. Considerable quantities are ground without burning and used as sand plaster or fertilizer, while smaller quantities are used in the manufacture of paint and paper, imitation meerschaum and ivory, and as an adulterant. The pure white massive form, known as alabaster, is much used by sculptors for interior ornamentation.

For plaster of Paris and for dental, molding and casting plasters a high grade of rock gypsum, ground very fine, is required, and the product is not mixed with any foreign substance or retarder, but is used in the pure or "neat" condition. Such plasters are quick setting and usually white in color. Much of the so-called cement plaster is made directly from gypsum, an impure unconsolidated earthy or sandy form of gypsum, which in many places is found to contain a suitable percentage of foreign material, so that the addition of a retarder is not necessary to effect a slow set. Where gypsum deposits are not available, cement plasters are made from rock gypsum by the addition of various mineral or organic retarders.

A large part of the structural plaster now produced is used in specially prepared conditions that appeal to the builder on account of their convenience. A plaster board is pressed from plaster interlaminated with sheets of thin cardboard. This plaster board is furnished in thin sheets, 32 by 36 inches, comprising 8 square feet of surface, and is designed to be nailed directly to the studding in place of lath, and to receive a coat of wall plaster directly on its outer surface. Fibered plaster is molded into both solid and hollow blocks and tiles, which are used in partitions and interior construction, and these, as well as the plaster board, have been proved to be of value as fire retarders.

Wall plasters are of two general grades—one a brown or gray coat—and the other a white or tinted finish coat. The wall plasters are commonly made with wood fiber or hair filler, and a wood pulp plaster is also being made that is finding use on the outside as well as on the inside of houses. Gypsum is used in the manufacture of calcimines, in water paints and tints, and to a considerable extent as an ingredient in dry colors, notably in Venetian reds. When used in excess in mineral paints it is regarded as an adulterant.

Notwithstanding the curtailment of building operations during the season of 1907, the trade in gypsum products during the year was fairly satisfactory until late in the autumn. Pacific Coast producers, with few exceptions, report increased demand. The gypsum reserves of California are extensive, many deposits being as yet worked only to the extent required for assessment, owing to remoteness from railroads. Some gypsum is being accumulated incidental to development of oil lands. California plaster manufacturers are fortunate in being able to use oil as a fuel in their mills. The California product is practically all disposed of within the state. Colorado firms report but little change from 1906 conditions. One new mill began production in October. In Iowa one new mill finished its first year of business. There is considerable competition in Iowa, owing to the con-

centration of the gypsum industry, but the principal producers are holding their own. In Kansas there was an increased production, principally from old producers. Reports from Michigan indicate that the demand for gypsum products was not quite so good as in 1906.

There was no production whatever reported from Montana during 1907. There are two small mills in the state, both of which have in former years produced plaster from a very pure grade of rock gypsum mined in Carbon and Cascade counties. The commercially productive gypsum deposits of Montana lie on the eastern base or foothills of the main Rocky Mountain range. There are several beds of gypsum, ranging from a few feet to as much as 50 feet in thickness. Some of these beds, where undeveloped, can be reached by railroad spurs less than five miles in length. In Nevada there was a large increase in the plaster business. One new mill was built which was just beginning operations early in 1908, and development work in Southern Nevada has disclosed a deposit of gypsum on which a mill is expected to be erected in 1908. In New Mexico two mills were in operation during the year. In New York State two new mills began operations in 1907, and two more mills are reported building early in 1908. The trade in New York and Ohio was, on the whole, better than in 1906, although conditions were generally quiet in the late months of the year.

The trade in Oklahoma was about normal. The autumn business depression was felt there as elsewhere. In this state the materials are obtained from open quarries and fields rather than from mines. The supply for wall plaster is drawn largely from gypsum deposits, which are not of wide extent and are comparatively soon exhausted. New gypsum deposits are, however, being discovered, and as mills have to be abandoned in one place new ones are built in others. It is also the custom to ship the raw material from some deposits perhaps a third of the distance across the state for treatment. Some ledges of rock gypsum are being quarried.

Prof. C. N. Gould has ventured the opinion that not 10 per cent of available gypsum deposits in Oklahoma have yet come to light. He has approximated the quantity of available rock gypsum in Oklahoma, and obtains the enormous total of 125,800,000,000 tons, much of which is underground. It is evident to all who are familiar with the field that there are vast reserves of rock gypsum in the Kansas-Oklahoma-Texas gypsum area. Cheap mining in the Oklahoma field is offset in part by the high cost of fuel and the transportation of the finished product to market. If it is found practicable to pipe natural gas from Eastern Oklahoma to the gypsum mills and to furnish it at a rate that will enable it to be utilized, manufacturing conditions might be still further improved.

South Dakota producers report slightly better conditions during the greater part of 1907. In Texas conditions were not greatly changed, there being a slight increase in sales for the year. Local demands for material in Utah ran far ahead of those in 1906, but the production was not largely increased. In Virginia, although one new plant began production, the trade as a whole did not show a thoroughly satisfactory condition. Wyoming producers found trade either about the same or slightly better.

The following table shows the amount of gypsum mined and the growth in intervals of five years:

In 1887 there were.....	95,000 short tons
In 1892 there were.....	256,259 short tons
In 1897 there were.....	288,982 short tons
In 1902 there were.....	816,478 short tons
In 1907 there were.....	1,751,748 short tons

Production of Gypsum in the United States in 1907, By States and Uses, in Short Tons.

State—	Total mined.	Sold crude.—		Sold as calcined plaster.—		Total value.	
		Quantity.	Value.	Quantity.	Value.		
Alaska, Colo., Mont., N. M., S. D. and Utah.	96,389	13,349	\$53,981	1,221	\$ 4,884	72,872	\$402,806
California, Nevada and Oregon.	80,879	20,902	38,302	6,161	28,288	49,860	294,046
Iowa.....	251,874	17,272	24,837	1,562	4,278	162,965	730,383
Kansas.....	155,980	27,211	33,572	3,395	6,364	96,347	374,330
Michigan.....	317,261	36,543	56,681	15,500	23,981	197,666	681,351
New York.....	324,507	101,721	196,426	5,716	14,687	145,132	589,112
Ohio and Virginia.....	202,253	4,473	9,390	13,296	33,359	146,565	800,225
Oklahoma and Texas.....	282,461	11,075	11,049	.....	.....	223,254	813,568
Wyoming.....	40,144	.....	.....	.....	.....	30,640	125,033
Total.....	1,751,748	232,546	\$424,227	46,851	\$115,841	1,125,301	\$4,402,196
							\$4,942,264

Production of Gypsum in the United States, 1903-1907. Classified as to Uses.

Year—	Sold crude.—			Sold as ground, as land plaster.—		
	Quantity in short tons.	Value.	Av. price per ton.	Quantity in short tons.	Value.	Av. price per ton.
1903.....	73,912	\$ 87,608	\$1.19	74,601	\$154,945	\$2.08
1904.....	56,137	61,234	1.09	70,167	142,490	2.03
1905.....	67,105	106,041	1.58	40,196	74,280	1.85
1906.....	186,999	460,545	2.46	62,671	157,292	2.50
1907.....	232,546	424,227	1.82	46,851	115,841	2.47
—Sold as calcined plaster.—						
Year—	Quantity in short tons.	Value.	Average price per ton.	Quantity in short tons.	Value.	Total value.
1903.....	742,543	\$3,550,390	\$4.77	3,784,325	\$15,729,943	
1904.....	665,340	2,580,601	3.88	3,220,138	3,220,138	3,220,227
1905.....	736,708	2,848,906	3.87	3,220,138	3.58	3,837,975
1906.....	899,581	3,220,138	3.58	3,220,138	3.51	4,942,264
1907.....	1,125,301	4,402,196	3.91	3,220,138	3.91	4,942,264

ROCK PRODUCTS



**The National
Builders' Supply Association**

Meets Semi-Annually.

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Official Organ, ROCK PRODUCTS.

The Fag End is Strong.

September reports of building operations are phenomenal, although the fag end of every season is the signal for accelerated action in the distribution of builders' supplies of all kinds, this year is above expectations and brings up the average for the entire season to a remarkable extent. The continued favorable weather for construction work has had no little to do with this and the rush of September has extended over into October, so that those stocks of goods that looked stationary three months ago have to a great extent disappeared, and, as usual in rush times, it is hard to replace them promptly as the requirements of the rush jobs call for the goods. As this paper goes to press every available team is busy, and the retailers of supplies are enjoying a big fat inning at last.

The Annual Meeting.

The next annual meeting of the National Builders' Supply Association, as was announced in the last issue, will be held at the Hotel Seelbach, Louisville, Ky., February 9 and 10, 1909.

The splendid auditorium and roof garden will make it possible to hold all the meetings and then the additional rooms will make it possible to show exhibits so that manufacturers will have an opportunity to place their wares before the visiting dealers.

H. S. West, secretary of the association, was in Louisville the other day talking it over with Owen Tyler and other retailers in that city, and he said that the program could be prepared as decided upon by the executive committee.

The Seelbach is one of the best hotels in the United States. It will take care of the whole party and with the various restaurants and special rooms this ought to be one of the best meetings the association has ever held.

Wish to Extend Their Lines.

The Carolina Portland Cement Company, by the person of Mr. Hanahan, vice-president and general manager, make the following statement from their Atlanta office:

"We are splendidly equipped for buying different classes of materials in carload lots, and receive them at South Atlantic and Gulf ports, and market them in the interior. We would be glad to have propositions submitted to us by manufacturers of materials, which could be easily worked along with our present line of building materials, and, in fact, any line which would work practically and interest-

the same class of trade. It is our intention to commence with the beginning of the year 1909 to double our present traveling force, and for this reason we wish to increase the lines of material that we are handling.

"This company has a capital and surplus of \$250,000, and is at present interested in the sale of Portland cement, wall plaster, fire brick, sewer pipe, ready and tarred roofing, metal paints, nails, lath, shingles, etc. Our main office is located at Charleston, S. C., and we have branch offices at Atlanta, Ga.; Birmingham and Montgomery, Ala., and New Orleans, La. Other offices will probably be located in the near future at other good market centers in the South. In connection with all of our branch offices, we carry full stocks of all the goods pertaining to our line, and we are situated so as to take care of all such classes of business in the entire South.

"We also store stocks of Portland cement at South Atlantic and Gulf ports. We now wish to extend and develop our business along different lines, corollary to the builders' supply trade. We spend a great deal of money each year in advertising and keeping in touch with all of the architects, engineers, contractors, property owners, lumber, cotton and oil mills, municipal authorities and county commissioners, and all large industrial concerns and manufacturers throughout the entire



C. P. FLATLEY, GREEN BAY, WIS.

South. Situated as we are and with the grasp on the trade that we have, we are splendidly equipped to serve all classes of trade for such goods as come in our line. We will give every proposition from manufacturers careful consideration if addressed to our Atlanta office."

Strong Wisconsin Concern.

GREEN BAY, Wis., Oct. 5.—Just about as progressive a town as one could come across in his travels is this well-located lake port city. It is the home of Flatley Brothers Company, who retail building materials of every description during the summer building season and handle coal during the winter, for the climate is such as to make summer and winter about even half and half of the year. This firm has always been members of the National Association, and C. P. Flatley, the companionable secretary-treasurer could not entertain the idea of missing an annual convention. Well, he is one of the fellows who would be missed, so it is well that he sees it that way. His picture adorns this page because of his popularity with the trade in general, and (whisper) the high esteem in which both he and his brothers connected with the firm are held at home is no less than that abroad.

Flatley Brothers & Co. was the original name of the business, which began operations at Green Bay in August, 1900. Theirs has been a career of uninterrupted success, the volume of business steadily increasing with each succeeding year. April 15, 1908, the firm was changed into a corporation as Flatley Brothers Company, capitalized at \$60,000, with the following officers: J. H. Flatley, president; T. G.

Flatley, vice-president, and C. P. Flatley, secretary-treasurer. Their yard and warehouses are located on the west side of the harbor, covering two acres. Chicago & North-Western tracks extend into the yard for rail shipments, while a dock for the accommodation of the largest boats alongside the warehouse adds to the advantages of water transportation. A selling office is maintained on Cherry Street on the east side of the principal business district. They handle Portland cement by cargo lots, and other standard materials upon a like scale. Although the present year has not been remarkable for large-sized jobs they say that their supply business has been very good indeed, owing to the large number of residences that are being built in Green Bay and vicinity. They observe that the substantial character of the buildings is increasing, as evidenced by the growth of brick sales as well as the full line of rock products.

Hold Annual Meeting.

HUNTSVILLE, ALA., Oct. 16.—The stockholders of the Huntsville Wood Fibre, Plaster & Lime Company held their annual meeting last month. The owners of the stock were highly gratified with the showing of the first year's business of the corporation and the outlook for business is so good that they have decided to increase the plaster output and establish two more lime kilns. A. M. Booth was elected president; C. A. Marshall, vice-president and general manager, and James R. Stevens, secretary and treasurer.

Business Shows Big Improvement.

COLUMBUS, O., Oct. 19.—W. O. Taylor, general manager of the Caspari Stone Company, in speaking of conditions in Baltimore, after a recent trip to that city, said that the city is now quite busy and large amounts of new work are under way and projected. All over the South, he said, that resumption in all lines is going on, and the prospect is for a busy fall and winter.

In regard to the local stone plants of the company, Mr. Taylor said that orders were showing quite an increase, especially those from the iron and steel mills. Railroad work is again under way, and the local quarries of the company will be busy places from now on. Chicago is just now taking a large amount of stone, as all of its iron and steel plants are in operation.

Have Completed the Factory.

NORFOLK, VA., October 3.—S. S. Hardison, manager of the Old Dominion Plaster Corporation, writes us that they have completed their factory and are ready for business. They manufacture O. D. brand of wall plaster. The officers of the company are: President, J. G. McNeal; vice president, Charles P. Breese; treasurer, J. G. Salisbury; secretary, S. S. Hardison.

Will Erect Plant.

FORD CITY, PA., October 3.—The Pittsburg Plate Glass Company will erect a plaster plant here. They have placed a contract with the F. D. Cummer & Son Company, of Cleveland, Ohio, for a Cummer continuous gypsum calciner and one Cummer gypsum rock dryer. The calciner is to have capacity for calcining fifteen tons of gypsum rock per hour and the dryer is to have capacity for evaporating four thousand pounds of water per hour. The dryer is to be used in reclaiming their old plaster.

Death of Joseph Loeb.

Joseph Loeb, secretary and manager of the Buckeye Fire Clay Company, Urichsville, Ohio, died at the Jewish Hospital, Cincinnati, September 21. Mr. Loeb had undergone an operation for cancer a few days previous, and at no time following had hope been held out of a favorable outcome.

The death of Mr. Loeb will be a great shock to his many friends—and many they are, for there was no one in the sewer pipe business who had a larger acquaintance. About 20 years ago he organized the Buckeye Fire Clay Company, and the growth of the business of this well-known concern under his management is the strongest possible testimonial of his untiring energy and his business ability.

Mr. Loeb was born in Hessheim, Bavaria, March 26, 1851, and came to America in 1870.

A born optimist, Mr. Loeb spread the doctrine of good cheer wherever he went. He was too busy a man to talk of hard times and when matters were not right he bent his efforts toward making them right. He had a world of courage in his makeup, and, though his sufferings for weeks prior to his death must have been intense, he made no complaint.

SCRIBO IN MONTREAL.

A Glance at the Masons' Supply Market of the Metropolis of Canada.

MONTREAL, QUE., Oct. 1.—This grand old half French and half English city, the metropolis of British possessions in America, is growing apace, and this is demonstrated practically by the steady increase of building operations from year to year and the consequent consumption of all kinds of building materials. Up to very recently all of the Portland cement used in Montreal has been furnished by English mills. Being the inland terminal of ocean navigation, this city has long been a very important distributing market. Sewer pipe, flue linings and tile of every description comes almost exclusively from England and Scotland, for the reason that Canadian clay beds have never furnished satisfactory material for the manufacture of such commodities upon a profitable basis. A small percentage of the goods of this character used in Canada is imported from the Ohio district in spite of the high tariff protecting the few local manufacturers and the larger ones over the seas.

The supply of lime is obtained from small operators burning indifferent lime rock in pot kilns. Some of the best qualities of limestone have never been worked so that about half of the lime burned and marketed at Montreal and throughout the Canadian provinces is high in silicates, which helps in poor burning, and consequently produces a poor quality of lime. The other half of the supply is largely made from marble limestone, and is of excellent quality. In this city a very large percentage of the commercial and public buildings are built of cut stone, which for the most part is taken from quarries located in the cliffs of the St. Lawrence river near at hand. An expert in the cut stone industry has said that the buildings of Montreal contain more truly classic moldings and carvings than any other city of the western hemisphere. A great deal of the brick used in the construction of even the present day comes from England and Ireland. The local goods in this line have never yet cut a considerable figure in the market. A sand lime brick plant has operated in the vicinity of Montreal for several years, and sold its output regularly upon the basis of common building brick. Sand abounds and is very cheap, both the washed river sand, which is reclaimed from bars in the river, and bank sand and gravel of high quality for all the modern structural requirements, such as concrete and concrete commodities. Crushed rock is plentiful in two distinct varieties, the one type being a shattered marble limestone, the other a very hard and dense specimen of trap rock. This limestone is naturally crushed with facility, owing to its crystalline nature, while the trap rock is tough and dense, and very hard to reduce for that reason.

On account of the cheapness of the limestone, the bulk of concrete aggregate is made up of this material, while top dressing for streets and roadways are trap rock, and fine screenings of trap rock is also used for roofing purposes. In these sizes the trap rock costs about twice as much as the limestone to produce, and for the purposes used is well worth the difference.

Canadian Portland cement is manufactured by four leading concerns, and is gradually putting the foreign product out of the market. The companies now operating in this line and making the same high type of Portland cement that will meet the American standard specifications are the Lakeside Portland Cement Company, Lehigh Portland Cement Company, Canadian Portland Cement Company and the Vulcan Portland Cement Company, whose mill near Montreal has just started in the midst of the present season. All of these concerns are doing a thriving business, and the rapid development of the country is promising for their future.

The ROCK PRODUCTS man had the pleasure of visiting several of the leading retailers of builders' supplies.

W. McNally & Co. is an old established concern which began business in 1875. The members are: William, George and William McNally, Jr. They have extensive warehouses and yards located conveniently for deliveries, and supplied with transportation facilities, both by water and rail. An inspection of their yard shows a large variety of clay goods, consisting of Scotch and English sewer pipe, flue linings and tiles of English and American manufacture. Granite wall plaster is a specialty which is manufactured ready for use. Gypsum comes exclusively from Nova Scotia, and a great variety of imported facing bricks are carried in stock. While they are using a great deal of Canadian manufactured cement at the present time, they formerly handled English Portlands exclusively, and still do a considerable business in English cements.

English cement is packed in barrels, and it is a magnificent package, the staves are made of Swedish fir, and tongued and grooved longitudinally. The chine is cut very deep and the heads of the barrels are invariably made of one piece of wood about one inch thick. The barrels are hooped with corrugated steel hoops, and it is the strongest package for the purpose that the writer has ever seen. Such a barrel at the current prices of coverage in the United States would cost at least 90 cents a piece, and yet the English manufacturers are able to lay their goods down at Montreal at prices parallel with those quoted by mills located within a short distance of the city. George McNally kindly showed the writer over the whole establishment.

The Stinson-Reeb Builders' Supply Company is composed of energetic and enterprising young men with modern business ideas, who have forged to the front and command a gratifying position in the trade. Kennedy Stinson sees the advantage of producing the highest grade of lime and ready mixed plaster that the market affords, and they operate an extensive plant to make this specialty. They handle large quantities of Canadian manufactured cement, and as is necessary in this city, some English goods as well. Their line of clay products comes from the same sources as already stated, and their location is equally advantageous both for receiving and shipping out supplies by water and rail. They are extensively interested in Toronto supply markets and also operate the Imperial Plaster Mill at that place.

F. Hyde & Co. is another leading concern that has built up a large business in the supply line. W. J. King, the manager of this concern, is a wideawake business man and realizes the expanding possibilities of the new growth which the city of Montreal and the Canadian provinces offer.

Practically all of the Portland cement that is manufactured in Canada is packed, as it is in America, in duck bags, with the usual rebate for returned empties.

J. Watterson & Co. handles private brands of Portland cement, together with fire brick and fire clay, principally from English manufacturers, in connection with their importing business in the lines of iron, steel, glass and chemicals. Mr. Watterson has been in the business for many years and is an experienced importer in these lines.

There are a number of other concerns whose line of goods is practically the same as those mentioned and who enjoy the same trade conditions. These are: Alexander Bremner, Hyde & Webster and Wilford Duquette, all sterling business men of the kind that the whole commercial fabric of the Dominion is built upon.

Norfolk, Va., Oct. 6.—The Wainwright-Jackson Company, retailers of builders' supplies of all kinds, have in the comparative short time they have been engaged in the business, supplied all the building material for a large number of local buildings, among which are the new Dickson Building, Lynn Haven and Colonial Hotels, Naval Hospital, Naval Y. M. C. A., the big Taylor Building and many others of minor importance. Both members of this concern are young men, full of enthusiasm, and the splendid record that they have made shows that this concern is the one great business success of the present year and a credit to Norfolk commercial enterprises.

Observe Steady Improvements.

The annual meeting of the Building Material Men's Association, of Westchester County, New York, occurred at White Plains, September 21, with a large attendance. Reports received showed the organization to be doing good work for its members. Officers as of last year were re-elected. The leading feature of the meeting was a full discussion of business conditions, the consensus of opinion being that business was slowly but steadily improving, and the hope was expressed that the same be encouraged and could be encouraged by sane action on the part of the wholesale and manufacturing trade in keeping prices for the near future on a basis commensurate with present values.

Standard Lime Company Changes Hands.

C. G. Green, of Cincinnati, O., has purchased the plant of the Standard Lime Company, at Fort Payne, Ala. This is one of the largest lime manufacturing industries in this section of the state and has been running successfully for more than twenty-five years. The output is a very high grade of lime and is sold almost exclusively to sugar manufacturers in Louisiana, who use it in the refining of sugar.

Lumber Retailers Handling Cement.

"The selling of cement is a feature of the retail lumber business that has attained a greater dignity than that of a side line and has become a profitable and conspicuous feature of the retail lumber trade," says the *American Lumberman*. "A live retailer in a thriving two-yard town said recently:

"Do you know the cement business is getting to be a big thing in our trade these days? We have sold enough cement this spring and summer to average practically a carload a week. And yet we haven't had a great many specially big jobs. It has just been a steady demand for cement and its use is increasing so that it is getting to be a big thing in connection with the lumber business."

"This man has demonstrated to his own satisfaction that the selling of cement is a field that the retail lumberman should not neglect. Undoubtedly he has done much himself by way of personal work and advertising to promote this part of his business, but he has been assisted by the prominence cement is itself assuming as a building material. However, the retailer should not depend upon the natural growth of such a demand alone, but can do much to promote the sale of cement and to increase his own importance in the community by keeping in stock this building material as well as the others which he handles. If builders choose cement in preference to wood for some purposes it is certainly the retail lumbermen's business to be able to supply this demand and not let the trade get away from him.

"It is not so very long ago that the amount of cement that was handled by retail lumber dealers was small. Cement had not come into general use—partly because its merits were not recognized and partly because a cheap cement was not available. Most of it came from Germany and was so expensive as not to be desirable for many purposes for which it is now employed. But a time came when Americans engaged in the manufacture of this product, and, while it was an uphill struggle to make the public see that the American article was equal or superior to the foreign cement, they have now firmly established their goods and placed a new asset in the hands of the retail lumber dealers. Last year America produced 50,000,000 barrels of cement, and competition and mechanical genius had reduced the prices to a point where cement can be employed in competition with almost any hard building material, especially in localities where good, clean sand is plentiful. It is used not merely in house building but for many purposes about the farm. The increased use for these needs can be encouraged by any dealer and will thus add materially to his income.

"Manufacturers of cement recognize that the dealer in building material is the proper man to promote intelligently and persistently the use of this product. They have found that it is essential to market cement through the hands of the building material dealer, and as a body they are discouraging the indiscriminate sale of cement to consumers and endeavoring to place it through the hands of regular dealers. They have learned not only that the retailer is the man to push it but that, if they expect the retailer to promote the sale of their particular brands, it is to their advantage to protect the dealer and not sell it to his trade direct. The ethics of the sale of cement are becoming as clearly defined as are the ethics which control the marketing of lumber.

"Therefore the conditions surrounding the dealer who sells cement are speedily becoming better. The demand has increased; the supply is plentiful. The retail lumber dealer has only to take advantage of present opportunities and push this new feature of his business to add material profit to his operations. How much each dealer shall share in the profits of the cement business depends very largely on himself."

The Ohio and Indiana Stone Company have purchased the Glidwell farm, just west of Greencastle, Ind., and will open up the stone quarries on the land and put in a large stone-crushing plant. The company will furnish the Big Four Railroad with all the crushed stone it will use on its Indianapolis to St. Louis line.

The plant of the Empire Wall Plaster Company, at Utica, N. Y., was burned to the extent of \$2,000. The company also deals in builders' supplies. The materials on hand were partially destroyed.

The Jonesburg Clay and Mining Company, St. Louis, Mo., has been incorporated for \$10,000. The incorporators are W. P. Trefny, E. G. Beeht and J. Dickson.

ROCK PRODUCTS



Sand and Gravel Statistics.

The production of sand and gravel in the United States in 1907 amounted to 41,851,918 short tons, valued at \$14,492,069, according to Ernest F. Burchard, of the United States Geological Survey, whose report on the condition of the industry has just appeared as an advance chapter from "Mineral Resources of the United States, Calendar Year 1907." Compared with the production in 1906, which amounted to 32,932,002 short tons, valued at \$12,698,208, the output of 1907 shows an increase of 8,919,916 short tons in quantity and of \$1,793,861 in value.

The large increase in quantity, as compared with the increase in value, was due, according to Mr. Burchard, to the inclusion in the figures of large quantities of sand and gravel used as ballast and for filling on the lines of railroads. This material is taken out by the railroads themselves, and the value as reported ranges from 8 cents to 20 cents per cubic yard. prices, the average price per ton in 1907 being \$1.53 for glass sand and 67 cents for molding sand. Building sand, including sand used for concrete, mortar and all structural purposes, had an average value of 32 cents per ton in 1907.

The price of sand varies so, with the treatment of the material after it is taken from the mine or pit that a statement of average price can hardly be taken as representing the market conditions. Much of the sand, especially the building sand, is dredged from the Ohio, Tennessee, Mississippi, Missouri, Potomac and Delaware rivers, the shores of the Great Lakes, and from the sea beaches of Long Island. Some of this sand is sold as dredged and represents the lowest reported value to the producer. Sand washed, dried, screened and then loaded for shipment commands a higher price. Sand crushed from stone has a higher value than natural sand, and glass-making sand, which must be particularly pure, has the greatest value of all.

Pennsylvania leads the states in value of sand and gravel production, and New York, Ohio, Illinois and New Jersey follow in the order named, but practically every state in the Union contributes to the output.

Mr. Burchard's report gives detailed statistics of the production of sand and gravel of all kinds in 1907, and, for purposes of comparison, the quantities and values of the same products in 1906. Copies of the report may be obtained by applying to the Director of the Survey at Washington, D. C.

Operating a Large Gravel Pit.

WINONA, MINN., Oct. 6.—The Biesanz Stone Company have opened and operated a large gravel pit this season. This pit is located on the C. & N. W. Railroad, about three miles from Winona.

The gravel is used for concrete work, for gravel roads and for top dressing for macadam. It is excellent for road work as it contains very sharp binding sand which packs and forms a hard impervious layer.

In concrete work it saves in the quantity of cement required. The gravel is very regularly graded in sizes ranging from two and a half inches to one-quarter inch.

A modern, up-to-date screening plant will be installed this winter.

Purchased a Steamboat.

LITTLE ROCK, ARK., Oct. 17.—The Southern Sand and Material Company, of Little Rock, Ark., has purchased the steamer Luella and will use it for sand dredging purposes. President Mord Roberts states: "The rise in freight rates recently put into effect by the railroads, and the widespread dissatisfaction among the shippers, led us to believe that the time was ripe for river transportation. When we came to get a steamer for our dredging project we decided to buy one which would be suitable for shipping purposes. At first we will use this boat for dredging out sand for commercial purposes two days every week. The remaining five days it will be at the disposal of shippers in making the trips between Pine Bluff and Little Rock."

The company has entered upon its business with a number of large contracts for sand to be used in building. They also have a brick plant and a rock crusher, so that they are able to meet any of the requirements of the trade, furnishing contractors sand, brick, sewer pipe, crushed rock and cement. The company has leased the Dalhoff rock crusher.

They handle Red Ring Portland cement. Mr. Robert's office is 623 Southern Trust Building, Little Rock.

Have a Capacity of Twenty-five Cars Daily.

LINCOLN, ILL., Oct. 17.—V. O. Johnston, general manager of the Lincoln Sand and Gravel Company, says: "We are specializing in clean, sharp sand and gravel for concrete work. The contractors of Illinois are gradually becoming educated to the use of such material in preference to bank run or other material containing foreign substances. It is gratifying to be able to see that our business is growing fast and that we cannot meet the demand for our material in paving and sidewalk and all kinds of concrete construction.

"We have a capacity of something like twenty-five cars per day, and are already planning to increase our plant for a still greater production next year. Prospects for 1909 in our line are very pleasing indeed, and we look forward to a record-breaking year. We try to keep abreast of the times by reading Rock Products every month."

Guthrie Land & Gravel Co. Organized.

GUTHRIE, OKLA., Oct. 7.—A charter has been issued by the Secretary of State to the Guthrie Sand and Gravel Company, capital stock \$10,000. Leo Bowman, J. O. and Lula Severns are the incorporators, all living here. Mr. Severns is president and Mr. Bowman secretary and treasurer. The company owns some land on the Cimarron near the mouth of the Cottonwood and has already spent about \$5,000 in equipping the plant. Pumping machinery has been placed on two big boats which have been built in the river. This week 700 feet of siding is being laid from the D. E. & G. tracks. Next week the company will begin pumping sand.

The Arundel Sand Company will construct three large sand and gravel bins at Henderson's wharf at the foot of Fell Street, Baltimore, Md. The cost of the construction will be \$3,000.

The Southern Sand Gravel and Supply Company has been incorporated at Columbus, O., by Charles M. Miller, Edward Russell, Fred Dennis, W. H. Laughridge and Joseph F. Hays. Capital stock, \$30,000. The company will deal in sand, gravel and other building material.

W. S. Hipp and J. H. Muldrow, Houston, Tex., have purchased a tract of land in Milan county and will develop gravel deposits. They will construct three miles of track from Santa Fe lines to the lands. The probable daily output will be fifty cars.

The Joliet Sand and Gravel Company expect to be operating at their new plant near Plainfield, Ill., by spring. They have four buildings and a 225-horsepower engine. The boiler is 300-horsepower. There are four large bins and the different grades of sand and gravel will be kept in them. Edward Reinwick, of Chicago, has been placed in charge and arrangements have been made with the E. J. & E. R. R., from which road the pit was purchased, to take all the coarser grades for filling purposes.

Jacob D. Wetter, president and treasurer of the Wetter Sand and Stone Company, Massillon, O., died October 2 at a sanitarium in Battle Creek, Mich., whence he had gone in search of health.

Useful Roofing Information.

Anyone who is considering the roofing proposition should secure the booklet on Amatite which has just been published. This booklet is full of practical information. It gives pointers that will enable you to know what's what in the roofing line. This booklet is published by the oldest roofing manufacturers in the country and may be relied upon for accuracy. It is mailed free to anyone sending their name and address. A sample of Amatite, with its mineral surface, which has made such a success as a lasting protection against the weather, is also sent with the booklet. Both are free and are well worth inspecting.

Address nearest office of the Barrett Manufacturing Company, New York, Chicago, Philadelphia, Boston, St. Louis, Cleveland, Pittsburgh, Cincinnati, Kansas City, Minneapolis, New Orleans.

The National Association.

NEW YORK, N. Y., Oct. 20.—L. P. Sibley, 17 Battery Place, secretary and treasurer of the National Association of Master Composition Roofers of U. S. A., writes us that the annual meeting of the association will be held on the second Tuesday in February, but the place of holding the same is subject to the decision of the directors. This is a matter that may not be decided for two or three months, but in the writer's opinion it will probably be held either in Chicago or New York.



Start Brick Plant.

COLUMBUS, OHIO, October 17.—J. N. Tapping, sales manager of the Columbus & Hocking Coal and Iron Company, writes us that they have opened up their new plant and are now making bricks.

Learned and Pounded.

The Ashland Fire Brick Company, Ashland, Ky., is issuing a booklet, "Learned and Pounded," unique and novel to the extreme. Not only in the text matter, but in the typographical makeup. It is a work of the printer's art. It contains a story told in fable, and argues the superiority of Ironton Crown fire-brick.

Brick in Demand.

LITTLE ROCK, ARK., Oct. 1.—W. W. Dickinson is completing the erection of a paving brick plant here. He has already been swamped with orders. One large order coming from a Memphis contractor who has a paving contract.

Will Move Brick Plant.

COLLINSVILLE, OKLA., Sept. 29.—It has been definitely decided to move the Chanute plant of the Coffeyville Brick Company to Collinsville, at which place forty acres of land was secured and 20,000,000 feet of gas daily has been contracted for. Paving brick only will be manufactured.

Fire Destroys Plant.

WATERVILLE, N. Y., Oct. 2.—The plant for the manufacture of brick from Vienna clay, erected in the eastern part of Canastota, by the Utica Pressed Brick Company, was destroyed by fire of unknown origin. For some time the plant had been idle. It is said the experiment of bringing clay there from Vienna, Oneida county, and manufacturing it into brick did not prove a financial success.

Texas Manufacturers Meet.

SAN ANTONIO, TEX., Oct. 14.—The Brick Manufacturers' Association of Texas, held their quarterly meeting here today. A noonday session was held and the manufacturers listened to a number of papers. The officers of the association are: C. R. Sherrill, of Corsicana, president; T. J. Cole, of Ferris, vice-president; K. Shawarts, of Elgin, second vice-president, and J. M. Harry, of Dallas, secretary and treasurer.

Will Build Addition.

The Chicago Retort and Fire Brick Company will build a \$15,000 addition to their plant at Bickleton, Ill. The new building will be 152x118 and will be constructed of concrete and brick. It will practically double the dry room capacity of the plant and will completely cover the present dryer, boiler house and blower room. The specifications sent are for the concrete contractors, who are asked to forward bids immediately for the concrete work.

The Ceramic Supply and Construction Company, of Columbus, Ohio, has been incorporated to manufacture machinery for use in clay, lime, cement, glass and other mineral industries. The capital stock is \$10,000, and the incorporators are: Orville P. Cockerill, O. C. Ingalls, George Robbins, Barton Griffiths and Fred H. Heywood.

The South Hess Drain Tile Company has been incorporated at Monroeville, Ohio, with \$20,000 capital; W. A. Smith, C. L. Smith, E. F. Smith, John Zone and Gus Hess are the incorporators.

The Havana Clay Products Company, Wilmington, Del., has been incorporated to manufacture products of clay, etc.; capital, \$1,500,000.

The South Devon Clay Company, New York, has been organized with a capital of \$10,000. The directors are Bartholomew B. Coyne and Clark H. Abbott, 29 Broadway, New York; Dennis M. Cahill, 11A Butler Street, Brooklyn.

The Vanderbilt Tile Company, New York, has been organized with a capital of \$10,000. The directors are George N. Vanderbilt, 87 Hamilton Place; Geo. E. Greenbaum, Hotel Cecil, New York; Henry S. Young, Summit, N. J.

ALL THAT THE NAME IMPLIES

SECURITY

PORLAND CEMENT



"Better than our specifications require."
—B. T. FENDALL, City Engineer, Baltimore.

"Our test is quite severe. Congratulate you on the excellent showing made."

—C.W.HENDRICK, Sewerage Commission, Baltimore.

Maryland Portland Cement Co.

Main Offices: 8th Floor, Equitable Bldg.

Baltimore, Md.

"The Best Is None too Good"



HIGHEST GRADE of Portland Cement

Every Barrel Absolutely Uniform.

R. R. facilities especially adapted for prompt shipments in the northwest.

Capacity 1,500,000 bbls. Yearly.

NORTHWESTERN STATES PORTLAND CEMENT COMPANY
MASON CITY, IOWA.



High Tensile Strength
Light Uniform Color
Finely Ground

CASTALIA PORTLAND CEMENT CO.
PITTSBURG, PA.

PLANT:
CASTALIA, ERIE CO., OHIO.
CAPACITY:
2,000 BARRELS DAILY.

CHARLES L. JOHNSON, Sales Mgr.
CASTALIA, OHIO

The Bonner Portland Cement Co.

W. H. CAFFERY, President

Manufacturers of

THE HIGHEST GRADE OF
PORTLAND CEMENT
IN THE WORLD
Operated under the
CAFFERY SYSTEM

Long Building, KANSAS CITY, U. S. A.



A Standard Portland
for Universal Use.



Daily Output 12,000
Barrels. Plants at
Chicago & Pittsburg.

Universal Portland Cement Co.
CHICAGO PITTSBURG



A new book "Portland Cement Sidewalk Construction" for free distribution—a thorough and comprehensive discussion of the correct methods of laying concrete sidewalks—full of helpful practical suggestions.

Write for a Copy

The BATES VALVE BAG

The strongest and most perfect
package for shipping and
storing cement



Economical packing and smallest
percentage of breakage
IT IS WATER PROOF!

The West Jersey Bag Co.

Front and Elm Streets

CAMDEN, N. J.



There Is Just One "Best" BRICKLAYING MORTAR

DURABILITY is a quality of building materials that must be considered, and the well tried excellence of all the masonry work that has employed Utica Hydraulic Cement for the mortar are silent witnesses that bespeak continued patronage for the only goods that is backed by the record of past achievements.

Each of the following reasons contributes an argument why the specifying architect or the careful builder should order Utica Hydraulic Cement exclusively.

1. Because —It is one of the oldest cements in America, having been on the market since 1838, and has an unbroken successful record of seventy years.
2. Because —It is strong. Its great binding strength makes a wall built with **Utica Cement** a homogeneous mass, the mortar getting harder with age, finally becomes harder than the brick or stone it cements together.
3. Because —It is eminently a bricklayer's cement. It is plastic and works cool and easy under the trowel, enabling the workman to spread the mortar uniformly and strike a neat, smooth joint.
4. Because —It is of a light buff color, and is stainless, it is especially adapted for use with Bedford stone and delicate tinted Brick. Where a special color effect is desired, same can be obtained by the use of the ordinary mortar colors without in any way affecting the strength of the cement.
5. Because —It is durable. Thousands of structures throughout the land stand today as monuments to the durability of **Utica Cement**.
6. Because —It is fireproof. Hydraulic cement has been known from the earliest times as among the most refractory of substances.
7. Because —**Utica Cement** is always uniform, being a natural product, its chemical combination never changes.
8. Because —It is economy to use **Utica Cement** for brick and stone mortar. One barrel of **Utica Cement** will lay 1,000 brick, and in most localities it is as cheap as lime, and cheaper than cement tempered with lime.
9. Because —We aim by fair and courteous treatment, right prices, and prompt shipments to win the esteem and friendship of our customers. No order too large for us to handle, none too small to receive our closest attention.
10. Because —You will never have occasion to regret that you specified **Utica Cement**, it is the **BEST**.

To Architects—Always specify Utica Cement for bricklaying mortar because it is the best. Besides it is cheaper than substitutes.

OUR GUARANTEE GOES WITH EVERY BAG AND BARREL

Utica Hydraulic Cement Company
Utica, Illinois

HYDRATED LIME

Bulletin 26

TO CONTRACTORS AND MASONS:

Within the last two years, Hydrated Lime, an improved and refined form of the common quick lime, has been placed upon the market and brought to the attention of the retail lime dealers. In Ohio and some of the other Eastern States, Hydrated Lime has almost entirely taken the place of Lump Lime, but in Wisconsin and the neighboring states, the proposition has come to the front only within the past few months and it is surely, if slowly, gaining ground.

The masons as a trade body are inclined to be prejudiced and to look with disfavor upon the use of new kinds of material. It is to correct these mistaken ideas that this explanation and description is placed before the contractors and masons of the Northwest.

The belief is common that Hydrated Lime is something new and therefore an experiment, but such is not the case. It is not a new discovery, but a rediscovery, for we are told that Hydrated Lime was in use in the old Roman times, and was crudely manufactured by piling up lump lime, covering it with sand in cone shaped mounds, and leaving an opening at the top into which water was poured. In excavating ruins, the mortar thus prepared is found to be in perfect condition at the present time and almost as hard as the marble with which it was used.

SOME REASONS WHY HYDRATED LIME IS PREFERABLE TO THE BEST LUMP LIME.

BECAUSE it will keep fresh any length of time. There is NO LOSS FROM AIR-SLAKING.

BECAUSE it requires no special air-tight storage, but may be piled up in any dry place.

BECAUSE it is shipped in sealed sacks and is clean and convenient to handle.

BECAUSE it has not lost any of its strength, but is as strong as fresh lump lime.

BECAUSE for winter work when bulk lime slakes very slowly, Hydrated Lime is a time saver, as it is mixed with cold water as readily as with warm water, and is ready to use immediately.

BECAUSE it saves the contractor the \$2.00 per ton that it costs him to slake lump lime.

BECAUSE it is bolted through wire cloth much the same as flour is. This removes all the grit and impurities, and makes the finest finishing lime in the world. 94 per cent of our Hydrated Lime passes through a hundred mesh screen.

BECAUSE it makes Portland Cement work more smoothly and renders it water-proof. It makes a cheaper mixture and does not lessen the tensile strength. Mix dry 20 per cent by weight of Hydrated Lime with 80 per cent by weight of Portland Cement and you will have a light colored cement block that will be water proof, and just as strong as though all Portland Cement were used.

BECAUSE Standard Hydrated Lime is the strongest setting lime produced in Wisconsin. It makes a wall as hard as gypsum hard plaster and much more durable. Because it is so finely divided, this lime mixes much more uniformly with sand than lump lime does.

BECAUSE Standard Hydrated Lime costs but little more per 200 pounds than lump lime in bulk, and not so much as lump lime in barrels. Figure the convenience and you will readily see that it is the cheapest lime product ever offered.

SOME OBJECTIONS ANSWERED.

The following are some of the objections that the less progressive masons urge against Hydrated Lime:

FIRST, That it will not take as much sand and therefore will not go as far as Lump Lime.

This is true to some extent and no honest manufacturer tries to convince a mason that Hydrated Lime will go quite as far as the Lump Lime. What we do claim is that the convenience of preparing it for use, the fact that there is no grit, no waste, no stone cores and no necessity for screening the putty, and last but not least, the better results obtained more than make up for the possible excess of lime used.

SECOND, That it makes harder work for the mortar mixer, and that hair does not mix with it easily.

This is entirely due to the fact that the mortar mixer is not used to mixing this material, and in many cases he dislikes to take the trouble to learn. If Goat Hair is used for this mortar instead of Cattle Hair, it will mix in easily, as Goat Hair is not matted together like even the cleanest of Cattle Hair is.

THIRD, That the mason has to hustle too fast to spread the mortar before it sets.

It is a fact that Standard Hydrated Lime is a quick setting material, but the evident advantage of this more than offsets any disadvantage. If the last coat is put on before the former coat is too dry, it will work smoothly and easily. If the base coat has thoroughly dried, it should be well sprinkled with water before putting on the finishing coat.

In mixing Hydrated Lime mortar, do not estimate the amount of lime used by measure, as it is very light compared with lump lime. Unless the amount of lime is estimated by weight the mortar is apt to be too poor.

Remember that over 5,000 tons of Hydrated Lime was used in the construction of the new Union Depot at Washington, D. C., and that we can point to many large buildings that were plastered entirely with Standard Hydrated Lime. The walls in these buildings are models of excellence and cannot be surpassed anywhere.

Will you not be progressive and begin now to use this excellent product? All masons will use it in time, but the mason who uses it now will find that he has a decided advantage over the one who does not.

Insist on getting "Standard" Hydrated Lime from your dealer. It is the brand that is guaranteed, and is in a class by itself. If your dealer does not handle it, write to us.

"Our Hydrated Lime is all manufactured by the *Kritzer Continuous Process* which has many vital advantages over any other process now in use. This method produces the Hydrate in a partial vacuum, in closed steel cylinders and thus all the strength is kept in the product. Moreover, the continuous process insures a uniform material and we are thus enabled to guarantee every barrel of Standard Hydrated Lime."

Standard Lime and Stone Co.
Fond du Lac, Wisconsin

We are installing commercially successful hydrating plants
THE KRITZER CO., CHICAGO



"EVERLASTING" WALLS

The walls of Grandfather's home would be sound and strong today and good enough for the coming generations if they'd been built with the plaster we are making for present day use. The substantial dwellings and business buildings of today make long-lived, durable walls absolutely necessary—and we have met this demand by placing on the market "Wheeling" Wall Plaster, the plaster that makes "everlasting" walls.

Careful study, expensive tests and experiments and conscientious effort on our part have resulted in the production of this plaster. Our policy has been to manufacture a hard wall plaster that will withstand the wear and tear of years, that will be proof against sound, heat, moisture and electricity, and that will be absolutely uniform and easy to apply. That we have succeeded is proved by the plaster itself.

We guarantee our plaster unexcelled for strength, durability and easy spreading qualities. Our illustrated booklet "Better Walls," will convince you that our confidence in **Wheeling Wall Plaster** is not misplaced.

The scratch of a pen will bring you the booklet.

WHEELING WALL PLASTER COMPANY
Sole Manufacturers WHEELING, W. Va.



CEMENT PLANT
CHANUTE, KAN.

Daily Capacity
2500 Barrels



**ASH GROVE LIME &
PORTLAND CEMENT CO.
KANSAS CITY, MO.**

MAKER OF

Ash Grove Portland Cement
SUPERFINE

High Grade White Lime
"THE BEST ON EARTH"

WE FURNISH
LIME IN "Unbustible" Steel Hoop Barrels



LIME WORKS

Ash Grove
Galloway }
Everton }
Carthage }
Greenfield } Mo.

Daily Capacity 2500 Barrels



Many customers would be
Added to the long list, if all
Users of Cement were familiar with
"Maumee" Waterproofing Compound; it's
Essential where good work is demanded, and the
Economical way of making water-tight work.

Write For Particulars

The Maumee Chemical Co.
403 St. Clair Building :: TOLEDO, OHIO

PERFECTION IN BLOCK MAKING

If you wish to attain this you should combine these three important features:

**Wet Process Face Down
Damp Curing**

The PETTYJOHN INVINCIBLE Machine does this, and is the only machine that does. Tandem Invincible makes two blocks at once. Price \$65.00 and up. Single Invincibles, \$35.00 and up. With our Triple Tier Racking System green blocks can be stacked three high direct from machine with inexpensive home-made rigging. Plans and blue prints free to customers. It economizes space, reduces off-bearing distance and above all insures slow, even, damp and perfect curing and bleaching.

Write for our latest edition of "Stone Making," a book of valuable data, just off the press—FREE

THE PETTYJOHN COMPANY
614 North Sixth Street Terre Haute, Indiana

Tell 'em you saw it in ROCK PRODUCTS.



The Chicago Cement Show.

The executive committee of the Cement Products Company, in charge of the Second Annual Cement Show, met Tuesday afternoon, October 20. Many important questions relative to the show which is to be held as previously announced, February 17 to 24, were settled.

A number of attractions are being planned to secure a large attendance, the idea being to make the show one that the layman will visit and appreciate. Plans of educating the actual consumer of cement will be devised. He it is who must be educated. He must be shown new uses for cement, not only for practical but artistic uses. An effort will be made along these lines to create interest and draw large crowds to the show.

The Central Passenger Association have given the committee the assurance that they will offer special railroad rates for the occasion. It will be on the basis of one fare and one-half from all points to Chicago. This is the first time since the railroad rates were reduced from 3 cents to 2 cents that a reduced rate has been offered. This is also the first instance that any concession has been offered cement people by the railroads.

The Illinois Retail Lumber Dealers' Association and the Illinois Masons' Supply Association will hold their next annual meetings at the time of the show. They will probably set their exact dates for February 17, 18 and 19.

The Cement Products Company will furnish all the decorations for the Coliseum. This means that it will be uniform throughout. Out-of-town exhibitors will have their booths provided for them and they will have no trouble from this source.

The exhibitors of last year's show will be given the choice of space. A number of applications have already been made.

The gallery extending around the building will be prepared for exhibit purposes in the event there is more applications than the main floor will take care of. The annex may also be used for exhibiting.

The committee are considering, among other things, the offering of cash prizes for a competition among architects for plans of concrete residences. The plan is to have the drawings on exhibition during the show.

Not only cement but everything entering into construction with concrete, as well as the machinery for manufacturing, will be exhibited. This is to be a show on a broad plan and one that will interest everyone in the cement or concrete business.

A strenuous effort is to be made to make the show a greater success than it was last year. There is much interest manifested in the project and the managers hope to make a show that will not only be a credit to the industry but make it profitable to each and every exhibitor.

The National Association.

The National Association of Cement Users has issued in pamphlet form the Standard Specifications for Cement Hollow Building Blocks. The association has also issued the Standard Specifications for Portland Cement Sidewalks. These specifications were adopted by the association at the last annual convention held in Buffalo.

The executive committee has under consideration the programme for the next convention and want suggestions from the members on subjects to be discussed; the exhibition and any other matters of importance affecting the work of the association.

There will be a number of additional specifications adopted at the coming convention, and it is the intention of the executive board to have prepared for adoption at each convention specifications governing the various uses of cement, thereby standardizing the best practice. This is one of the many ways in which the association proposes to advance the proper use of cement. These specifications will be subject to such annual revision as may be deemed desirable in the light of experience with their use, thus keeping them up to date.

The various sectional committees, the names and addresses of whose chairmen are enumerated below, are engaged in preparing new specifications or suggested revisions of specifications already adopted, and all members of the association are earnestly requested to communicate to the chairman of these respective committees any suggestions or criticisms they may care to make.



JACKSON SHEET STEEL PILING COFFER-DAM WORK, NASHVILLE, TENN.

Committee on Art and Architecture—Charles D. Watson, 828 Fulton Building, Pittsburgh, Pa.

Committee on Insurance, Laws and Ordinances—W. H. Ham, 10 East Thirty-third Street, New York, N. Y.

Committee on Streets, Sidewalks and Floors—W. W. Schouler, 145 Clinton Street, Newark, N. J.

Committee on Cement Products and Machinery—A. T. Bradley, 181 West Main Street, Rochester, N. Y.

Committee on Reinforced Concrete—Sanford E. Thompson, Newton Highlands, Mass.

Committee on Testing Cement and Cement Products—E. S. Larney, 101 Milk Street, Boston, Mass.

The campaign having for its object a total membership of one thousand by the opening of the next convention is meeting with the loyal support of many of the members, and the executive board feels that it should command the hearty co-operation of all the members. This matter of additional members will be kept before the membership continually. It should not be a difficult matter for those interested in the progress of the association to secure new members. With the wide diversity of interests, the membership of this association should be easily in excess of two thousand. The nominal dues of \$5 per annum should not be prohibitive since each member is entitled to a volume of the proceedings containing information of the greatest practical value to all users of cement.

The Canadian Cement and Concrete Association

At the meeting of the executive committee of the Canadian Cement and Concrete Association held recently, it was decided to hold the next convention at Toronto. The exact date was not decided upon, though it will be held the first week in February, 1909. This will be the first convention of the association and the exhibit of cement, concrete and machinery will be one of the features. This will be the first attempt to hold anything of this kind for the industry in Canada.

Heavy Engineering Work at Nashville.

(Continued from page 3.)

able in the selection and preparation of the materials for the piers and approaches. Nashville is peculiarly adapted to this class of construction on account of the abundance and good quality of stone for concrete purposes found there. The approaches are designed wide enough to allow for the laying of street car tracks, as well as the accommodation of traffic, and will be as wide as the ordinary boulevard (60 feet). This is 8 feet wider than the present bridge, which affords the only avenue between the two sections of Nashville.

Both new bridges will be exactly alike. Each will have two terminal spans of 180 feet, while the middle two spans will be 320 feet. These spans rest on concrete piers 110 feet above the foundation, which goes down to bedrock. The trusses of steel cantilevers will be 52 feet high at the span center, gracefully curved toward the ends. Some novel concrete arch construction will be used in the approaches over the Southern Railroad yards at the Sparkman Street crossing. This class of work is known as concrete bowstring trusses, and will carry the roadway and walks. The main roadway will be 40 feet in width, while the sidewalks at either side will be 10 feet wide. The entire floor of the bridge will be of concrete.

George W. Jackson Company, Chicago-New York, are contractors for the cofferdam work, and their patented system of steel sheet piling was used.

W. T. Hardison & Co., retailers of builders' supplies in Nashville, the southern agents of the Kosmos Portland Cement Company, have the contract for furnishing of the cement. Mr. Hardison informs us that his contract calls for 35,000 barrels on the two bridges, but it is his opinion that not less than 50,000 barrels will be required.

A part of the concrete work on the Jefferson Street bridge has been sublet to J. D. Foy, of Atlanta, H. M. Gould, of Louisville, Ky., who is associated with the Foster & Creighton Company, is in charge of the work. R. L. Proctor is superintending the east division and W. F. Creighton the west division of the Sparkman Street bridge.

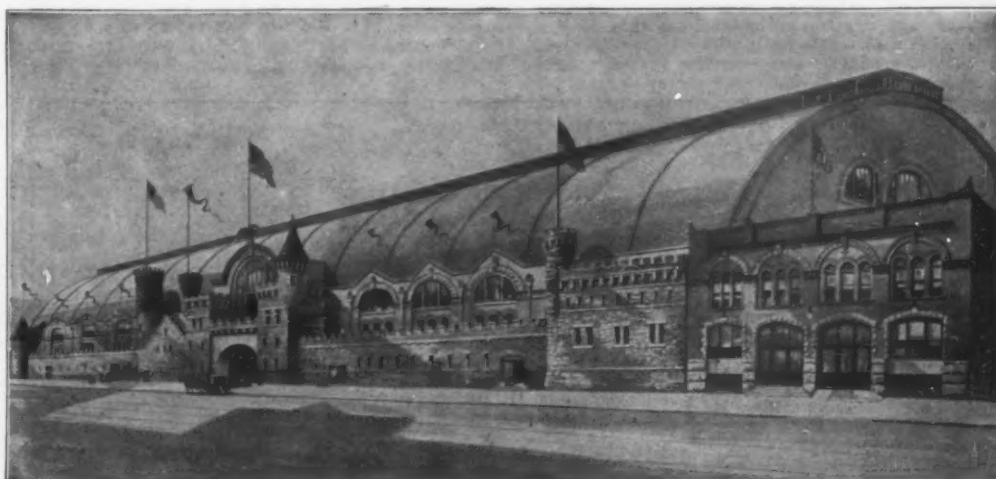
The steel work on these bridges is being furnished by the American Bridge Company, of New York, through Walter G. Zimmerman, the contracting manager of Atlanta, Ga. The weight of all the structural steel work required for the Sparkman Street bridge is 1,800 tons, and for the Jefferson Street bridge 1,600 tons. The approaches for the two bridges and the bridges themselves amount to a total of 3,250 feet. There are about 35,000 yards of dirt in the fill for the East Nashville approach of the Jefferson Street bridge.

It is estimated that when these bridges are completed that the total cost will be between \$800,000 and \$1,000,000.

H. M. Jones is the engineer and C. B. Wilson assistant in the construction of these bridges.

Charles Gasser, a paving and concrete contractor, is erecting a concrete residence at 814 West Cary Street, Richmond, Va. The walls, which are of monolithic concrete, are twelve inches thick, and the floors are of reinforced concrete, put in on the Kahn system. The roof is also of concrete, as are the stairways, porches and pillars and the balcony above.

We have a request for the address of J. D. Wood, formerly of New York City. If anyone knows Mr. Wood they will confer a favor by sending his address to the office of ROCK PRODUCTS in Chicago.



THE COLISEUM AT CHICAGO, WHERE THE CEMENT SHOW WILL BE HELD.

STATE FAIR.

Kentucky's Handsome and Substantial Concrete Pavilion Erected at Louisville in One Hundred and Fourteen Days.

One hundred thousand people who saw the exhibition of the Kentucky State Fair at Louisville from September 14 to 19 expressed universal admiration at sight of the live stock pavilion, which was the principal structure completed. The pavilion is constructed of concrete and steel, and besides possessing the stability and strength which are characteristics of that type of construction, it is a building of marked beauty and effectiveness of design. There are enough features in connection with it to make a complete description of especial interest to those who are connected with the concrete industry.

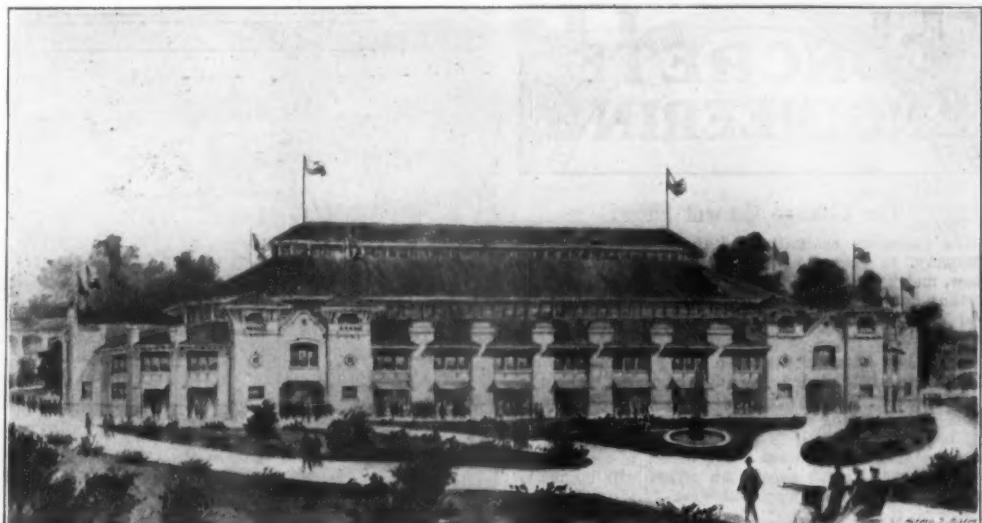
The building was erected at a cost of \$100,000. Alfred S. Joseph was the architect and Oscar G. Joseph was the engineer. The two brothers are members of the firm of Joseph & Joseph, Lincoln Building, Louisville. The contractor was the E. G. Nave Company of Portsmouth, O. The architect, engineer and contractor were appointed by the Kentucky State Board of Agriculture, under whose auspices the State Fair is held.

The fair this year was held for the first time on its own grounds, and the site was not purchased until a few months ago. The building, which was used for the exhibition of the cattle and horses as well as for the public gatherings held during the week, had to be erected in short order. Work was begun on this building May 20. This meant that it went up in about 114 days, close to record time. During the latter part of the period, day and night shifts were used, and when the fair began the building was ready for use.

The pavilion is 400 feet long by 212 feet wide, and larger than the pavilion of the Indiana State Fair at Indianapolis, Ind. The dimensions of the arena are 120x300. The style of architecture of the pavilion is Spanish Mission throughout, with white sides and a red tile roof. Circling the arena is a 14-foot granitoid walk, and beyond it are the boxes, while the seats sweep up behind them. The total seating capacity of the structure is about 6,000, and it was tested several times during the State Fair. At each end of the building is an entrance for the stock.

In this connection it has been announced that permanent horse and cattle barns are to be constructed of reinforced concrete between now and the next exhibition, and so pleased have the public and the members of the State Fair Board been with the pavilion that it has been determined to make all of the buildings of concrete construction. This is a considerable victory for construction of this type, since most of the State Fairs have used brick and steel, or have been content with wooden buildings. One of the next buildings which will go up here is the women's work building, and it is certain that it will be of concrete.

The exterior walls of the pavilion are twenty-one inches thick, reinforced sufficiently to take up the expansion. The roof trusses, of steel, have spans 120 feet long and lean-to trusses each 46 feet long. The piers shown in the accompanying illustration are each 34 feet above the grade level, 21 inches thick and 10 feet wide. The towers are of concrete, with the lower six feet battered six inches. The masonry for the entire building is of solid concrete, and even such portions as are necessary to overhang the roofs were constructed on steel beams, solid concrete being used. This was a difficult operation, and increased the cost for those portions to \$56 a cubic



LIVE STOCK PAVILION OF THE KENTUCKY STATE FAIR AS COMPLETED.

yard. Altogether between 2,000 and 2,500 cubic yards of concrete entered into the building.

Some of the new features of the building are its style of architecture, no stucco is used, but the ornamentation is built with the main body of the concrete and the finish is made on the surface of the concrete itself. As a rule the ornaments are plastered on to the exterior of the concrete, where they are liable to be knocked off, while with their construction as an integral part of the building itself there is no such danger. Again, the exterior treatment in many such buildings is coating the concrete

made on the grounds to determine the best mix, these involving tests of the rock, sand and the quality of the water. The walls, I believe, are waterproof without the addition of any special material, as the result of the perfect apportioning of the ingredients of the concrete.

"The building, in spite of rapid construction, can be regarded as a model in every respect, and many brother architects have told me that it is the handsomest of the kind they have ever seen. I really think the time which elapsed between the breaking of ground and the opening of it to the public is the shortest on record for the construction of a building of that size. At one time as many as 500 men were at work, and during some of the time night shifts of concrete finishers were at work."

Extreme care was exercised to see that the proportions determined for the mix were adhered to, and the engineer had a man standing over the mixers at all times. As a result the effects obtained were such as commended themselves to the experts who viewed the building as it neared completion, and to the public who saw it when it was opened.

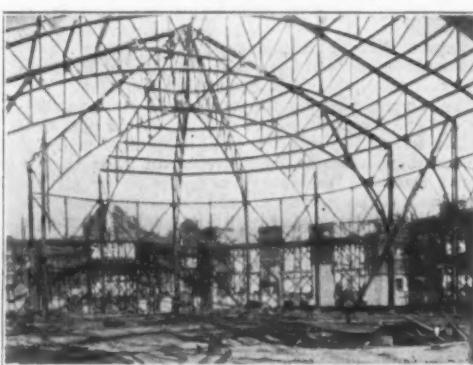
Secretary J. W. Newman, of the State Fair, is highly enthusiastic over the live stock pavilion, and believes that it is the ideal structure for State Fair purposes. In an interview with a representative of Rock Products he said:

"The erection of the live stock pavilion in little more than 100 days set at rest a question which has long been in the minds of those who were compelled to erect buildings on short notice: Can a concrete structure be put up as rapidly as one of brick or other material? The question was answered for us in the affirmative, for it was shown that the time lost while the concrete is setting in the forms can be utilized in erecting other parts of the building. The rapidity with which the pavilion shot up was a revelation to me and to all the members of the State Board.

"As far as its strength is concerned, I am confident, after the test to which it was put during the State Fair, that it is able to bear anything that may be put upon it. Crowds which filled it from door to door and from the arena to the topmost seat were in there nearly every day, and battalions of soldiers marched in and out, while exhibitions of horses and live stock were given constantly. Every possible shock was produced, and yet at the end of the exhibition there was not so much as the slightest crack in the concrete to indicate that it was not a perfect structure.

"The beauty of the building is one of its chief charms. Many people are of the impression that reinforced concrete makes a dull-looking structure, but they would only have to see the pavilion in order to have this idea dissipated. The Spanish Mission style was carried out well with the concrete construction, and in fact it will be used in all of the new buildings as we erect them. We shall not be able, owing to the fact that the Legislature does not meet until 1910, to secure a sufficient appropriation to erect the buildings which we have in mind; but we may have enough money left from the proceeds of this year's Fair, which was remarkably successful, to put up one more building. It will either be an agricultural building or an addition to the grandstand. If it is the former, we shall use reinforced concrete and steel in its construction; while if the grandstand is added to it is probable that we shall continue the present style of that structure, which is built of brick and steel, with a concrete finish."

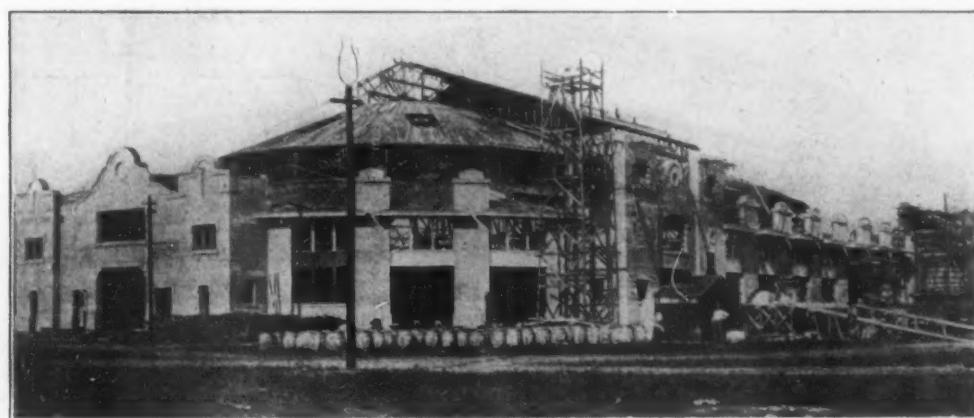
"As an indication of the impression which the live stock pavilion has made, representatives of the



SETTING OF STEEL FRAME IN KENTUCKY STATE FAIR BUILDING.

with lath and plaster instead of making the finish directly on the main body of the concrete itself.

In describing the building, Architect Joseph said: "The design of the building is best adapted for Fair purposes, with its broad, plain surfaces and wide projecting cornices. The color scheme of white walls and dark tile roof is in strict harmony with nature's own colors. The concrete set so hard that it was extremely difficult to drill through it. All the belt courses and ornamentation are of concrete, and were built into the form work and not plastered onto the exterior. The concrete was rather slow in setting on account of the wall thickness, but once it set, it will last forever. Experimental tests were



LIVE STOCK PAVILION, KENTUCKY STATE FAIR BUILDING IN COURSE OF ERECTION.

State Fairs of Tennessee and Texas have been here with a view to adopting the ideas used in its erection at their own plants. When you have something that other people try to imitate, it is usually good. I consider the pavilion the greatest building of its kind not only in America but in the world. Its seating capacity, its splendid arena and its strength of construction make it ideal for our purposes."

Mr. Newman said that his view with reference to the use of reinforced concrete in the State Fair buildings is shared by the members of the Board of Agriculture, which means that when the other buildings come to be erected, nothing but that type will be considered. The construction of the live stock pavilion under the circumstances of time and occasion created a condition that made it possible for the reinforced concrete idea to make a big hit.

More about Concrete Streets.

As bearing out what we have recently said on the subject of concrete streets we quote from G. L. Clausen, a consulting engineer of Chicago, who has made an exhaustive study of street pavements:

"As it is necessary with nearly all pavements to have a concrete foundation, why should not cement make a good binding material for the wearing surface as well? Although the engineering profession has been a little slow in accepting this conclusion, because of the fear that the elements would seriously affect the rigid surface, and that what the elements would not do the traffic soon would; yet, in our era of concrete construction, the idea of a concrete pavement cannot be downed. It was conceded that properly made concrete would resist the action of the elements to a remarkable extent, but the idea prevailed that a concrete surface for street traffic would be unsuitable because it would be subjected to calamities which would render the streets practically useless for any kind of travel. The fact is that actual experience has demonstrated that concrete pavements, when properly constructed, have very few objectionable features.

"The ideal pavement—dustless, noiseless, indestructible and easily maintained—is coming slowly. Macadam, a fine roadmaker for light driving on country roads, cannot withstand the automobile. Asphalt and wood also have their limitations for small municipal pocketbooks, as they will not last forever. Is not all-concrete the coming material?"

Good Material in the Right Place.

CHELSEA, MASS., Oct. 7.—The Concrete Power Block Company is doing a thriving business in the manufacture of concrete building blocks and conducting a general contracting business. It will be recalled that this city, a part of greater Boston, has been laid waste by two very large fires during the present spring and summer. This condition will be better understood by stating that about 500 acres of the most thickly populated section was totally swept away. Most of this vast area was covered with valuable buildings. As soon as insurance adjustments could be reached, the work of rebuilding began and, although there has been great activity, the progress is only beginning to be noticeable. Recognizing the high fire resisting qualities of concrete blocks, the Concrete Power Block Company got busy. The company is composed of A. Y. Pearle, a practical architect, W. F. Flynn and Chas. W. Duffley. The office of the designing and contracting department of the business is located at 352-354 Broadway, while the manufacturing plant is only a few blocks distant, where they have sidetrack accommodations connecting with the New York Central lines and Grand Trunk Railway. The product of this plant has been investigated by the Massachusetts School of Technology and passed by the Chelsea Trust Company as acceptable building material of the highest grade. Several business and

residence buildings have been completed of these blocks and a large number of buildings are now going up. The exceptionally fine appearance of the blocks when laid up in the wall naturally attracts new business. The plant, a picture of which appears as an illustration herewith, is equipped with a Perfection block machine outfit, installed by W. L. Dow, of Chicago. They use an excellent grade of bank sand that comes from Lowell, Mass., and Edison and Atlas cement is used. The plant has been kept running regularly since it was started up in June, and the stock has kept moving out as fast as it can be properly cured. Mr. Flynn is the manager of the plant and regularly makes five hundred blocks a day with five men to run the machinery. A seasoning kiln was closed at the time the writer visited the plant, with a record of sixty-six blocks for the last working hour of the day. Recently, under Mr. Pearle's inspection, three men laid up 58 feet of wall 10 feet high in two days, which is economical wall work at the job to say the least. Their plan of operation is to carry a whole building through to completion, furnishing all the materials and labor. While concrete blocks are a new material in this vicinity, they are readily recognized as a pronounced improvement over many other available materials. The fine fire record of good concrete blocks is a recommendation that goes deep into the convictions of Chelsea people.

Handsome Concrete Block Residence.

The Newsom Crushed Stone & Quarry Company, of Nashville, Tenn., has been very successful in building concrete block houses. ROCK PRODUCTS has from time to time printed photographs of buildings which were erected by them. The blocks used in these structures are all made on the Coltrin machine, for which they are the southern agents. They own their own quarry and furnish crushed stone for their own use and also for general sale. The accompanying

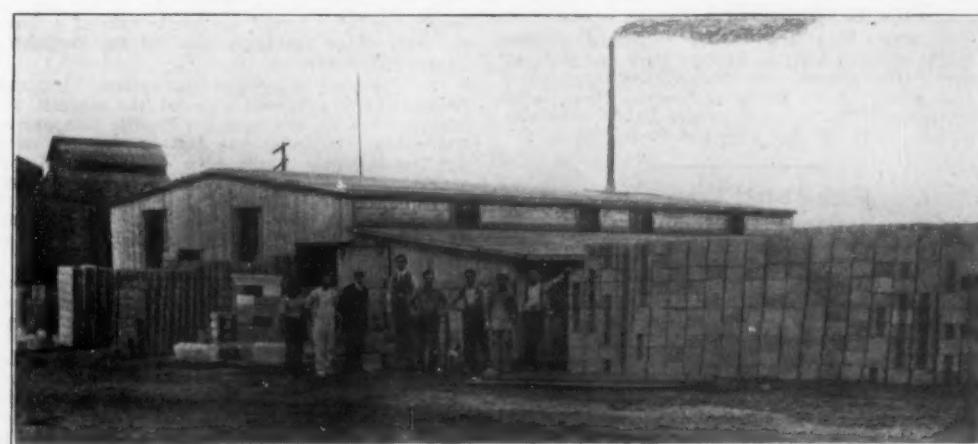


CONCRETE BLOCK HOUSE AT NASHVILLE, TENN.

illustration shows a home built by them. It is an eight-room house, 35x30 feet, and the estimated cost is about \$4,000. It is equipped with furnace for heating, with both gas and electricity, bath, stationary wash stands, cabinet mantels, hardwood floors, concrete porch, balusters, columns, full cellar in concrete, chimneys, etc. The blocks in this house were all made with the Coltrin block machine.

Reinforced Concrete Pipe Company.

JACKSON, MICH., Oct. 18.—The Reinforced Concrete Pipe Company is one that has gone into the manufacture of concrete pipe on a large scale. They have recently issued a very handsome catalogue which shows pictures of work they have done in sewers, culverts and water pipes. The superiority of concrete as a structural material for this class of construction is unquestioned. The officers of this company are: President, E. F. Lowery; vice president, W. R. Woodford; secretary, John V. Moran; treasurer, P. B.



PLANT OF THE CONCRETE POWER COMPANY, CHELSEA, MASS.



PROGRESS OF CONSTRUCTION ON THE POINT, CLEVELAND.

Big Demand for Concrete Material.

CLEVELAND, OHIO, Oct. 9.—W. P. Hurst, of the Cleveland Macadam Company, recently took a picture of the mammoth pile of granulated slag which is being used as a concrete aggregate in the erection of the Point Building under construction at the junction of Euclid Avenue and Huron Road. He says, "We have had a great big demand for slag for concrete aggregate this fall and this is a sample of the way that we deliver the goods. We keep enough material on hand beside the job so that they never have to wait on us. The engineers here consider our slag the best obtainable concrete aggregate, and that is the reason why we have been sold up practically to capacity all this summer and fall. Notice our sign at the right of the picture with the big word 'concrete' on it, standing right out of the pile of slag, which tells the next contractor where to go for his material."

Secures Large Contracts.

NEW YORK, N. Y., Oct. 16.—Among the contracts recently secured by the Turner Construction Company, 11 Broadway, may be mentioned the following:

The construction of 1,800 feet of reinforced concrete fence for the Long Island Railroad Company in connection with their Atlantic Avenue freight yards, Long Island City. This contract makes a total of one and one-half miles of concrete fence constructed by the Turner Construction Company for this company.

They have also been awarded a contract by the N. Y. C. & H. R. R. Co., G. W. Kittredge, chief engineer, for the construction of the driveway floor between the postoffice and the northeast wing of the Grand Central Station at Depew Place. Also the reinforced concrete floors in connection with the same. This contract includes the baggage room floor and the roof of the northeast wing of the new station. A total of about 45,000 square feet of floor will be constructed.

A contract for all the reinforced concrete floor and roof slabs, as well as for the fireproofing of all exposed steel work in the Maxine Elliott Theater, now under construction at 107 to 113 West Thirty-ninth Street, according to the plans of Marshall & Fox, of Chicago, architects, and John McKeefry, general contractor. Work on all these contracts will be undertaken at once.

Plan Concrete Post Office.

WASHINGTON, D. C., Oct. 17.—Wood is to be practically tabooed in the construction of the United States postoffice building to be erected in San Juan, Porto Rico.

"This exclusion of wood," said James Knox Taylor, supervising architect of the Treasury, "is not due to the fact that it is being discounted in favor of other building materials, but because there is a small ant indigenous to the island of Porto Rico which eats its way up through woodwork of all sorts, making it so soft and pulpy that it often crumbles to small bits when it is pressed by the hand."

Concrete will enter largely into the construction of the building, being supplemented by brick, iron and some stone work.

The building, which is to be three stories and basement in height, will be an imposing structure of the Spanish type of architecture.

"Concrete would be used more in the construction of government buildings," continued Mr. Taylor, "if it were possible to secure enough men who are experts in testing the material. It has to be handled carefully, however, for there is no half-way business with concrete. It is either good or bad, and therein lies the danger. It is easy enough to get men who know more or less about the material, but the number of experts in that line is comparatively small."

The building, which will be 196 feet long and 100 in depth, will face Comercio Street.

Let Contract for San Lorenzo Bridge.

OAKLAND, CAL., Oct. 16.—Cotton Bros. Construction Company was awarded the contract by the Board of Supervisors for the erection of a steel and concrete bridge over San Lorenzo Creek. The successful bid was for \$4,948.

ROCK PRODUCTS

Artificial Stone in Canada.

TORONTO, ONT., Oct. 3.—The manufacture of "Roman" stone here has become an established industry in building materials. This method of making artificial stone, which was first known as the Stevens process, is peculiarly adapted to the available materials of this section particularly and throughout the Dominion of Canada. Sand of very good grade for concrete purposes abounds, and is cheap, and some very fine specimens of Roman stone work are to be observed on King Street in the principal business section. Several buildings of the Bank of Canada have been built of this material, one of them in Toronto. One of the principal uses to which Roman stone has been put is for quoins and ornamental features in connection with red brick.

Herewith is illustrated a view of the magnificent conservatory and stable and also showing the coachman's residence that was built by Col. Henry Pellatt as the first installment of improvements for a magnificent estate which he had designed several years ago. The residence proper has never been begun.

When one contemplates that not less than \$75,000 has been expended on the stable alone with its handsome Gothic towers highly ornamented with Roman stone used as quoins and belt courses, one can appreciate the grandeur of the whole. All of the masonry work of the conservatory shown in our illustration is also made of Roman stone.

An ornamental fence of Roman stone surrounds the entire establishment, being about one mile in length. The design of the posts, the foundation and the balustrades of this fence can be seen in the illustration. The lawn is planted with rare flowers and the interior of the conservatory is lined with enameled brick in delicate tints with contrasted colors. The same interior treatment prevails throughout the stables and

Favors Pipe of Concrete.

PORLTAND, ORE., Oct. 16.—The use of reinforced concrete for the second Bull Run pipeline is being advocated by W. A. Grondahl, a Portland engineer. At the last meeting of the United East Side Push Clubs he spoke upon the subject by invitation and made the following remarks:

"When I called attention to reinforced concrete pipe, and suggested the use of such for the Bull Run conduit, it was primarily with the object of having such construction thoroughly considered and investigated before final decision on what material to adopt be made.

"There can be no doubt but that reinforced concrete, if at all practicable, would give as nearly absolute permanency to the conduit as possible; and when, in addition to this, the cost of such conduit would be less than any other with the exception of wooden pipe, the consideration of its adoption will be of the greatest importance.

"As to the strength of such conduit it lies absolutely with the designer to make it of any desired strength; and right here is the main advantage of the reinforced concrete pipe—if on one foot of pipe you want to provide for 1,000 pounds pressure, you put in steel to care for it; if on another foot you need only strength to overcome 100 pounds pressure, only steel enough for such pressure goes in. All of which is done simply by varying the spacing of the reinforcement rings. We all know that the strength of any structure is measured by its weakest point, and reinforced concrete is the only combination of materials which can be used in such a manner as to give absolutely equal factors of strength throughout the whole length of the line. The internal strains to be taken care of by this pipeline vary as the pipeline goes down into the ravines and over the hills, and is

building: H. A. Rogers, E. Cobb, J. C. Van Doorn, D. L. Bell. A committee to draw plans was also appointed consisting of the following men: C. A. P. Turner, O. U. Miracle, L. V. Thayer. The president of the Association shall act in conjunction with the different committees ex-officio.

The Aberthaw Construction Company, of Boston, Mass., is constructing an eight-story concrete office building for Hon. J. P. Baxter, on Congress Street, nearly opposite the Lafayette Hotel.

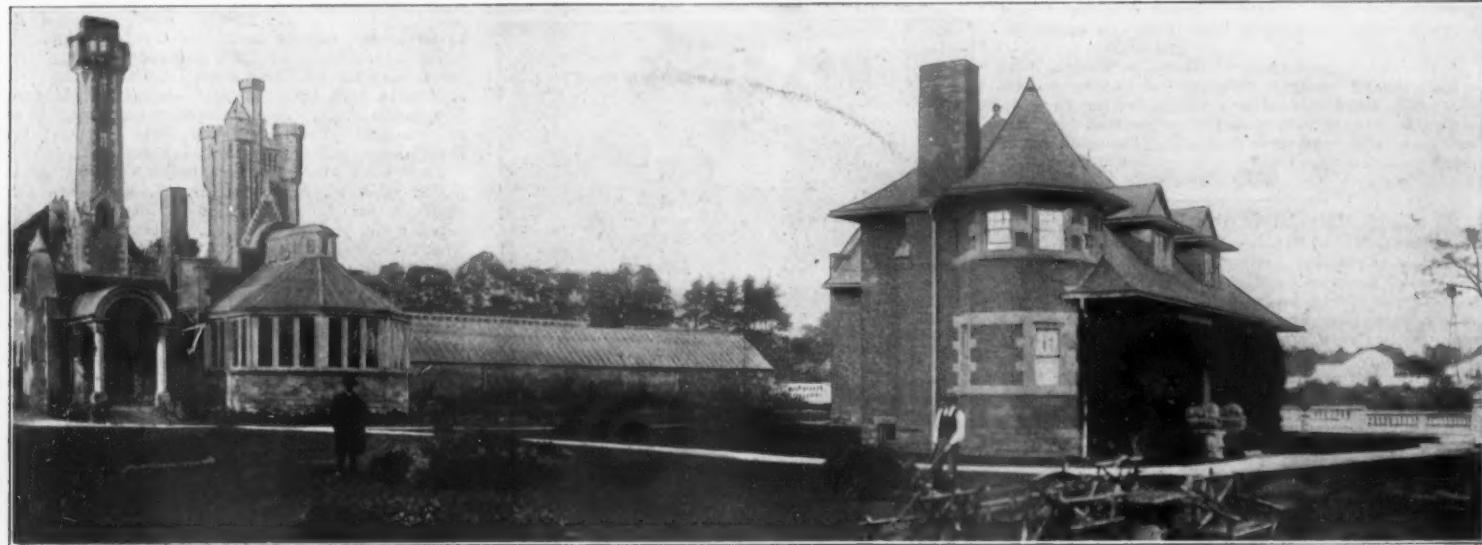
The J. N. Wheeler Screen Company, Aurora, Ill., has begun the manufacture of concrete building blocks for the foundation and walls of the addition to replace building No. 1. The blocks are being made from Portland cement, using for an aggregate material secured from the new gravel pit recently opened on the factory grounds.

The Concrete Foundation Company has been incorporated at Queens, N. Y., for concrete work, foundations for buildings, sidewalks and floors. Capital stock, \$6,000. Incorporators: Benjamin R. Campbell, Woodhaven, N. Y.; Herman E. Winnie, Ozone Park, N. Y.; Frank A. Hann Weber, Brooklyn, N. Y.

Frank Brandt, manager of the Altoona Construction and Supply Company, Altoona, Pa., is in Lock Haven looking after the rebuilding of the Lock Haven Hospital, recently destroyed by fire. He expects to have the building under roof by December 1. The cost of the building will be about \$65,000.

The Racine Cement Construction Company, Racine, Wis., has been incorporated with a capital stock of \$7,500. Incorporators: E. H. Ellis, F. C. Runge and F. J. Guettsehow.

G. E. Vore has completed plans for a concrete block church edifice for the Mississippi Avenue Congregational Church to be erected on the corner of Missouri Avenue and Shaver Street, Portland, Ore.



RESIDENCE, BUILT BY COL. HENRY PELLATT, TORONTO, ONT'S. COACHMAN'S RESIDENCE.

garage and vehicle apartments.

Shortly after completing this part of the building projects, Col. Pellatt went into financial difficulties and gave up any further interest in the matter so that the magnificent stables practically completed now have never been used, while the conservatory, which was completed first, is filled with the choicest and rarest flowers and plants.

We show it as a sample of the way that Roman stone is used in and about Toronto as well as to exhibit the curious ideas of the eccentric gentleman who built his stables and greenhouses before he erected his own residence, although his explanation is that he wished to try out the materials in every available combination before he decided just what treatment for the residence should be, for he wanted it to be unique as well as magnificent.

The Names of the Crew.

BANCROFT, Ia., Sept. 29.—We are in receipt of the following from the Northwestern Drainage and Construction company: "The six employees whose photographs you printed last month are: J. H. Welp, manager of plant; H. E. Johnson, operator of tile machine; H. W. Pettibone, engineer and car operator; C. A. Bolster, Paul Hackl and Frank Welp, tile skinners. The tile were all set on the cars direct from the machine by the skinners. Our factory is run to its full capacity and we are unable to supply the local demands for our product." The above crew made 5,254 five-inch tile in ten hours on a Schenk Drain Tile Machine.

measured on the profile by the distance between the hydraulic grade line and the pipe. A concrete pipe would have on this stretch an average of about 150 pounds of reinforcement and one-half cubic yard of concrete. The former would cost \$20 per foot, the latter \$12.50."

Building Reinforced Concrete Bridge.

NORFOLK, VA., Oct. 17.—A reinforced concrete bridge is being built at Jackson Park and will connect Lovitt Avenue with the proposed extension of Holt street. J. W. Davis, of Newport News, is the contractor. The bridge is to cost \$8,000 when completed. It is 100 feet long and 50 feet wide.

Fifth Annual Convention.

MINNEAPOLIS, MINN., Oct. 17.—At a general meeting of the Executive Committee of the Northwestern Cement Products Association, called by Martin T. Roche, President, at the Nicollet Hotel, Minneapolis, it was unanimously determined to hold the Fifth Annual Convention on the 2d, 3d and 4th of March, 1909, the place to be determined later by a committee composed of J. C. Van Doorn, C. A. P. Turner, O. U. Miracle, R. O. Miracle and Harvey B. Smith.

The Association has decided to present to the Minnesota State Fair a concrete building to be used solely for cement product exhibits. A committee composed of the following members was appointed by the chair to select a site on the fair grounds for the

It will cost about \$10,000. Bids will be opened the latter part of the month.

A new concrete pile making machine, which was designed by Harry O'Hagan, of Aurora, Ill., and which has been under course of erection at Hannibal, Mo., for several months past, has been recently tested by the Burlington officials and is proving successful. Piles composed entirely of concrete, thirty feet in length, are being turned out at the rate of a dozen per day. They are being used by the Burlington Railroad Company.

The Rockford Concrete Construction Company, Rockford, Ill., has been awarded the contract for improvements for the Rockford Electric Company at their power station on the east side of the river. The improvements consist of a new reinforced concrete structure to take the place of the wooden one, which projects out over the water at the race, new head gates, and new turbine wheel pits and will cost about \$30,000 or \$40,000. The work will be done in modern reinforced concrete.

Capt. Edward H. Schulz, United States Engineer's Office, Kansas City, Mo., has awarded the Raymond Concrete Pile Company, of New York and Chicago, a contract for placing reinforced concrete piles in the Missouri River, near Elwood, Kan. These piles will be used for holding revetments in some river improvement work that is being carried out at the aforementioned locality. Heretofore wood piles were used in all of this work, but on account of their comparatively short life, from three to seven years, it was decided to substitute concrete piles.

SAND-LIME BRICK

For Attention of Association Members.

Suggestions as to the time and place for holding the next annual meeting of the National Association of Manufacturers of Sand-Lime Products. Four conventions have been held in the middle west already, and as came out at the close of the Columbus meeting in December last year, Washington, D. C., and Old Point Comfort, Va., are prominently mentioned as desirable places for holding the meeting in order to give the eastern and southeastern members a chance to attend a convention close to home. A critical stage in the development of the industry has been reached. To quote Professor Ira H. Woolson, "The time has come now when you must 'make good' or acknowledge defeat." Important tests have been conducted under the joint auspices of the National Association and the National Board of Fire Underwriters. This work has gone as far as it can without the collective advice and co-operation of all the membership. The report of the tests officially made to the joint committee is in the hands of the officers of both bodies, parties to the test; also, recommendations, decisions and agreements are complete for placing before the membership. The next meeting will be the one important occasion for deciding the future profitable progress of the sand-lime brick industry. A few members have not paid dues for the current year. If you have no 1908 certificate you owe the association \$10, and the money is badly needed to carry on the work that is being done for the benefit of the members who support the cause. Address communications with regard to the coming meeting, etc., to Fred. K. Irvine, Secretary N. A. M. S. L. P., 355 Dearborn Street, Chicago, Ill.

Steadily Doing a Big Business.

ROCHESTER, N. Y., Oct. 16.—Visiting with Homer Knapp, president, and R. W. Holden, secretary and treasurer of the Rochester Composite Brick Company, at their extensive plant near this city, a very active scene was presented. This concern suffered a loss by fire about eighteen months ago, and the new plant only got into operation in June at the height of the building season without any stock. The equipment for making "composite" brick is very complete. They operate two Simpson 6-mold presses and two harden-



SAND LIME BRICK RESIDENCE OF A. BERG,
TORONTO, CAN.

ing cylinders, making about 43,000 brick per day as an average run. They purchase hydrated lime from the Genesee Lime Company, whose quarry and lime plant is located in another part of the county. Two grades of sand are used in the mixture, one of which is coarse and sharp while the other is very fine and almost pure white. The regular product is a clear grayish white brick of good quality, as established by tests certified to by some of the leading materials laboratories of the country. Buff and red brick are also produced, the former having gained very considerable popularity in Rochester and vicinity. Besides the sand lime brick plant there is also a division devoted to the manufacture of sand lime and concrete building blocks. There is a Fischer hydraulic outfit and also an American hydraulic outfit for the molding of the blocks, and all the materials are mechanically mixed. Steam curing tunnels are provided and both types of blocks of very high grade are manufactured upon an extensive scale. In spite of the complaints of lack of building activities this season the entire product of this large double plant has been disposed of. In connection with their manufacturing opera-

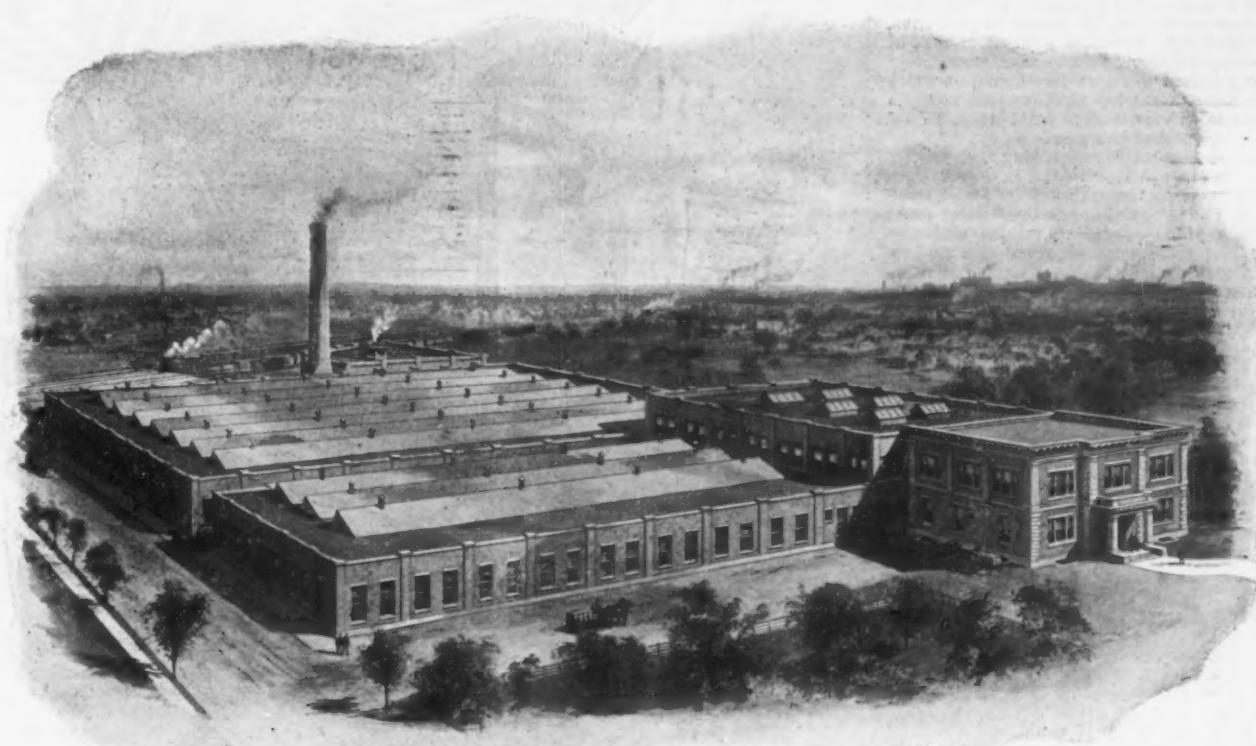
tions they also handle builders' supplies, making a specialty of all kinds of brick. Among the numerous buildings for which they have furnished brick this year is the office and plant of the Ritter Dental Company. All of white brick and trimmings of olive green it presents a magnificent appearance. The smokestack, 120 feet high, with the name of the company built in vertically of black brick, is a unique feature, and is a fine specimen of brick laying as well as recommendation for the material. The whole factory used no less than 750,000 white brick. The accompanying illustration cannot give adequate idea of this splendid white brick job. Deliveries still continue almost up to the capacity of the plant, and the brick plant will be operated through the winter months so as to accumulate a stock in time to begin with early deliveries next spring. The manufacturing and business interests of Rochester were conducting an industrial exposition, and it was so well attended that only ten per cent of those who wanted to attend could get inside the doors. Now that surely looks like prosperity.

The House of Berg Has Taken Canada.

TORONTO, ONT., Oct. 2.—Probably no man in the sand-lime brick industry is unacquainted with A. Berg, the inventor of the Berg vertical brick press, who has been one of the pioneers in the study that has brought sand-lime brick to the perfect state that it has attained. Having placed the rights of his brick press in the hands of the Anderson Foundry and Machine Company insofar as the business originating in the United States is concerned, he came to this city about four years ago to look after the brick manufacturing requirements of the Dominion of Canada. Like everything else that Mr. Berg has ever undertaken he has made a great big success in Canada, both in the clay brick and sand-lime brick fields. Early in the present year he organized the Berg Machinery Manufacturing Company in this city and acquired one of the largest establishments in the Dominion devoted to foundry and machine building. The scope of the establishment is not by any means confined to brick machinery, but includes stationary and marine engines and boilers, pumps and other machinery too numerous to mention at this time. We hope to have illustrations in a later number to show the extensive details of the plant. Associated with his father in the office is John Berg, who has grown up in the business and is himself a mechanical engineer with an inventive genius that is finding opportunity in the expanding business.

Mr. Berg drove the writer in his buggy to the plant of the Canada Sand-Lime Brick Company, which is located at Toronto Junction, a few miles northwest from the city. Robert Kennedy is the presiding of-

(Continued on page 48.)



PLANT OF THE RITTER DENTAL COMPANY AT ROCHESTER, N. Y.

DEEP WATERWAYS.

Convention at Chicago Easily One of the Most Important Gatherings of the Year.

The third annual convention of the Lakes-to-the-Gulf Deep Waterways Association, some 3,000 strong, assembled in the Auditorium, Wednesday morning, October 7, at 10 o'clock, and adjourned Friday morning, October 9.

It was easily the most important gathering of the year. This convention of brilliant men from all parts of the country assembled here to urge, plan and discuss an improvement on which may depend the commercial supremacy of the United States.

At last year's congress, held in Memphis, President Roosevelt was the dominating and inspiring genius. At this convention William Howard Taft and William Jennings Bryan and other great lights were in attendance, lending the prestige of their names and the support of their voices to this great movement.

The project for which this association is working, for which it is striving to obtain congressional support, is the building of a deep waterway from the Great Lakes to the Gulf of Mexico. It plans to deepen and widen the channel of the Mississippi River from St. Louis to the sea, to open up tributaries now closed to navigation because of short-sighted governmental policy, to advocate a canal from Ashtabula to Pittsburgh, to deepen and widen the White, the Missouri, the Arkansas, the Tombigbee, the Ohio rivers and other streams that are tributary to the Father of Waters.

With such developments the encroaching hold of the railroads that are daily growing more powerful and more insolent would be loosened and the great central agricultural and industrial districts of the country would know a growth and a development which the present lack of transportation facilities and the grasping methods of the railroads have made impossible. The value of this improvement to the country at large is incalculable.

An illustration of what it means to the shippers, the producers and the consumers can be had from the achievements of the Soo Canal.

When the project of improving the St. Mary's River was first broached it met with the opposition of the railroads, but Congress finally passed the necessary appropriations for the work, and it stands today as the greatest single monument to the industrial growth of the Northwest in existence.

The lesson of the Soo Canal has been so tremendously impressive that the Dominion of Canada is planning a new canal that, if placed in operation, will deprive the United States of millions of tons of freight annually and deeply affect our markets.

This is the proposed Georgian Bay Canal, on which the Canadian Government has already spent nearly a million dollars in surveys, and to build which an appropriation is to be asked this year.

This canal will connect Georgian Bay with the St. Lawrence River and will shorten the haul of freight from the Northwest to the seaboard by about seven hundred miles, besides providing a deep water canal from the sea to the upper lakes, which will give Canada the short route to Europe and mean a tremendous saving of freight charges to the consumers abroad, placing American goods on European markets at a great disadvantage.

The great timber lands are mostly all across the border now, and western Canada is fast becoming the grain producing center of the world.

With this intense rivalry the United States producers will have to seek other markets or cheaper means of transportation for their products.

The deep waterway to the Gulf will provide this. It will enable the ocean steamers to come up the Mississippi River, and even to Chicago, for their loads of freight, and will open facilities to the agriculturist and the manufacturer which he has never had before.

It is predicted that it is only a question of time before the oil, gasoline or denatured alcohol motor will replace the steam engine in the freight carriers of the world.

The problem has apparently been solved, for European advices are that the first motor-driven freighter recently docked in London after a most successful voyage from its home port in Sweden.

The success of this movement is of incalculable value to the deep waterway project.

From St. Louis to Chicago it would be impractical to give deeper channel than fourteen feet, but large freighters equipped with motors can be built with this draft and still carry loads that will warrant their being ocean-going craft.

The movement for a deep waterway is therefore growing more practical every day, and the sooner Congress is made to realize that it will best serve the interests of the country at large by getting the deep waterway project afoot and providing appropriation for the beginning of the work, the sooner will the farmer of the West be able to rely on marketing his crops and the manufacturer to realize that his production is not limited by the railroad which has to haul his goods.

Chicago needs the lakes-to-gulf waterway, but the great West needs it even more than Chicago.

The depth of the proposed waterway has been given careful attention by experts, and in former conventions of the association it has been decided that fourteen feet minimum depth is sufficient for all practical purposes. Competent engineers have figured that such a depth is possible of attainment in the two worst stretches, namely, from Cairo to St. Louis and at the mouth of the Missouri River. Throughout all the balance of the route twenty-five or even thirty feet minimum depth is quite as possible.

WEDNESDAY AFTERNOON.

The Chicago Drainage Canal was inspected. Three special trains carrying about 2,000 people left the Dearborn Street Station on the Santa Fe. They proceeded to Romeo, five miles above Lockport, stopping at two or three points. At Romeo the delegates and their friends were transferred to barges and towed down the canal to Bear Trap Dam. There the party went to the power house farther down and was shown over the plant.

The great banquet was held Wednesday evening in the ninth floor dining room and in the banquet hall of the Auditorium. Both Mr. Bryan and Mr. Taft made speeches as well as other dignitaries.

The Chicago Association of Commerce acted as hosts to the delegates who attended the convention. Eight committees were in charge of the arrangements for the entertainment of the delegates.

The convention was called to order by the president of the association, William K. Kavanaugh of Missouri.

After the invocation by Dr. Emil G. Hirsch, the president addressed the assemblage and said in part:

A paramount issue confronts the people of the United States. It may be expressed in the question: "Shall our natural resources be conserved and developed?" With equal truth, this issue may be expressed in the broader question: "Shall our national prosperity be promoted and perpetuated?" For the conservation and development of our natural resources means the promotion and perpetuation of our national prosperity.

It is a noteworthy fact that this issue has become paramount since the creation, two years ago, of this, the Lakes-to-the-Gulf Deep Waterway Association, whose principal object is the development of those great natural resources, the Mississippi and its tributaries.

The field of this association is a favorable one. Occupying the very heart of the country, it has become so rapidly the real center of the country's growth, activity, wealth and power that many have failed to follow its progress. In area it is one-half the United States; in number of states it exceeds a score, including all those commonwealths which are richest in agricultural and mineral output; in population it has grown more rapidly than any other section of the country, until today in the States drained in whole or in part by the Mississippi with its tributaries and by the other rivers flowing into the Gulf on the south or the Great Lakes on the north live fully one-half of the citizens of the nation, and reckoned by the proportion of freeholders and independent producers it includes much more than one-half of the nation's effective population. The time has come for these citizens, the bone and sinew, the brain and intelligence of the nation, to speak for themselves, for their interests, for their posterity, as the fate of the nation, yea, that of civilization and enlightenment, rests in the hands of the sturdy sons of this, the great Mississippi Valley.

Secretary William F. Saunders made his annual report. After detailing the work of the convention thus far, he paid a tribute to the assistance the governors had given the association, mentioning particularly Governor Deneen of Illinois, Governor Vardaman of Mississippi and Governor Folk of Missouri. He also recognized the hearty support accorded by President Roosevelt.

The financial statement shows that after the Memphis convention of last year there was a balance on hand of \$1,389.49. Receipts since October 1, 1907, have been \$13,410.74. To this amount Mississippi through various organizations contributed \$3,001; St. Louis, \$3,032; Chicago, \$2,275; Illinois outside of Chicago, \$1,802; Memphis, \$1,300. Many of the

GRAB A ROPE, EVERYBODY AND PULL!



HOW THE CHICAGO DAILY NEWS PICTURES THE DEEP WATERWAYS PROJECT.

smaller cities and business men's associations have contributed in proportion to their population and means. Expenses for the year were \$10,126.94, leaving a balance on hand October 1, 1908, of \$3,283.80.

Governor Charles S. Deneen of Illinois introduced William H. Taft, the Republican candidate. Mr. Taft briefly reviewed the history of the transportation development, emphasizing the need of waterways as auxiliaries to the railroads. He referred to the experience of European countries along this line and dwelt particularly on the intimate relationship between the conservation of natural resources of the country and waterway improvement. The chief points made in Mr. Taft's address were:

Transportation is the question of the hour. We must have recourse to our waterways.

Internal commerce has increased 118 per cent, while railroad facilities have increased only 20 percent.

The waterway being open and free for all, the danger of monopoly is much reduced and its carrying capacity, unlike that of the railroad, is unlimited.

Achievement of these great ends cannot be worked out without a radical departure from the course of procedure heretofore employed. * * * A policy which brooks delay is wasteful, if nothing worse.

We have the problem of making our forests outlast this generation, our iron outlast this century and our coal the next.

The secondary effect of waterway improvement will be a reduction in the increasing ratio of the consumption of iron and of coal. It will reduce the demand of timber for ties.

Experts estimate that the water power producible in the United States would suffice to drive every manufacturing and propel every railway train.

My own judgment is that a very great improvement, like that of the lakes to the gulf, should be treated as one great enterprise, just as the Panama Canal.

THURSDAY.

The first business taken up on Thursday morning was the report of the committee on credentials.

The paper of J. J. Hill of the Northern Pacific, who was unable to be present, was read by Congressman Rainey, one of those connected with the deep waterways movement. In it Mr. Hill sharply criticised recent legislation. In part Mr. Hill's address was as follows, his topic being "The Future of Rail and Water Transportation":

The wording of my subject suggests at the outset the correction of an error actively propagated by interested parties for many years and by no means yet rooted out of the public mind. The assertion that the railroad interests of this country are or have been hostile to the development of its water ways, that they have feared this cheap competition and sought to stifle river improvement, is one of the many cheap slanders by which a political campaign against railroad interests has been promoted in the past. It is absurd upon its face. The phrase, "The Future of Rail and Water Transportation," indicates their close correlation. I am glad to emphasize right here the fact that their relation is one of harmony, of helpfulness and of co-operation.

Following Mr. Hill's paper, William J. Bryan was introduced by former Governor Francis of Missouri, and was cordially greeted by a great audience, which filled the Auditorium theater. His speech was too long for reproduction here, but some of its salient features were as follows:

I think it was Franklin who said that a man had to be overpraised by his friends to make up for the abuse that he receives undeservedly from his enemies. And when I receive praise beyond my merits, as I have this morning, I feel like the homely girl whose sweetheart told her that she was beautiful. She retired to her closet and thanked God that love was blind.

And so a person in public life, and one can be in public life without being in office, often has reason to be grateful that his friends are so generous as to magnify his virtues and overlook his faults.

I am glad to meet with those who assemble here in the interests of the development of the waterways of this country. I am in hearty sympathy with you. You cannot go beyond me. If you can speak first and tell me what you want and let me speak afterward, I will go beyond you. They said down at St. Louis that they wanted a waterway from the lakes to the gulf fourteen feet deep. That is not deep enough, my friends; it must be deeper than that. Governor Francis told me that they are now talking about twenty-two feet. I think it ought to be twenty-three. You cannot give the people too good facilities for the transportation of their merchandise.

Water transportation is the natural transportation. God made the rivers and man made the railroads. The rivers were the means before the railroad was invented, and while the railroad has given us speed, it has not given us the cheapness that the river gives, and speed is not the only thing. The race is not to the swift, but in the development of a country the race is to the one who can do what needs to be done at the smallest cost to the people who need to have it done.

The railroad cannot rival the water course in cheapness, and then there is another advantage that the water course has. When you finish a river sufficiently deep for commerce, or a canal upon which boats can float, you make it possible for a man with small capital to act, while the railroads make it possible for men with large capital to act.

THURSDAY AFTERNOON.

The feature of the session of Thursday afternoon was the address of Gifford Pinchot, head of the Forest Service of the United States and chairman of the National Conservation Commission.

The convention of the Lakes-to-the-Gulf Deep Waterways Association declared its final sentiment in the following:

"This, the third Lakes-to-the-Gulf deep waterway convention, the largest waterway convention ever assembled in the United States, including some 4,000 delegates from forty-four sovereign states of this Union, representing the commercial, agricultural, manufacturing and mercantile interests of the entire Mississippi Valley, and having deeply in mind and at heart the prosperity and welfare, not only of the people of the Mississippi Valley, but of the whole nation, and realizing that the moral and spiritual stamina and growth of the nation as a whole depends upon the material welfare and prosperity of the individual citizen, do hereby resolve and declare, to promote the 'general welfare' is recognized by the Constitution of the United States as one of the fundamental principles of government.

General Government's Duty.

"The general welfare of the people of the United States can best be promoted by establishing the commerce of the country on a sound basis, and by so enlarging it that agricultural and mineral resources may be developed to the end that production and manufacturing may be encouraged and that all other lines of independent business may be increased.

"Easy and adequate transportation, effective between producer and consumer and for carrying the abundant product of the country to the seaboard for shipment abroad, is the first essential for the development of the commerce of the United States; and the responsibility for this development rests on the general government.

"It has been demonstrated during the past ten years that when business conditions in the United States are normal the transportation facilities afforded by the railroads are utterly inadequate; and it is stated by the great traffic managers of the railways that the development of railway facilities cannot keep pace with the increased demands upon them. The leading railway authorities, including prominent officials of all the great lines which parallel the Mississippi, declare that water transportation must be developed to supplement the railways in order that the freight of the country may be handled properly and promptly.

Congress Should Act at Once.

"Under the Constitution the regulation of commerce between the states devolves on the general government; and under those decisions of Chief Justice Marshall which are universally accepted as our best interpretation of constitutional powers, the control of waterways and the regulation of navigation also rests with the general government, and neither states nor private capital can be permitted under the Constitution to assume these duties.

"The duty therefore devolves on the general government to give to the country adequate transportation facilities by developing the navigable waterways of the country into complete freight-carrying usefulness. This duty should be recognized by the Congress at once, and the waterways should be made efficient freight carriers, otherwise the United States cannot maintain commercial equality with those other nations of the world now equipping their waterways as freight carriers and considering their railways and waterways as complementary agencies; and in no other way can this country derive benefits equaling those of other countries from the building of the Panama Canal.

The Paramount Issue.

"The all-important question of transportation is a paramount issue. If it be found that the current revenues of the government are insufficient for carrying out vigorously and on a broad plan the development of our waterways, the Congress should secure funds for that purpose by providing a sufficient bond issue.

"The interior valley comprises approximately half the area of the United States. It is 2,500 miles in length and 2,000 miles in width. Within its boundaries lie the greatest producing states of the Union. The arms of this great river system form the boundary lines of twenty-one states and over 20,000 miles of possible navigation. This vast valley produced three-fourths of our foreign exports. Within this valley live half the people of the entire United States, and the voice of its citizens must be heard. The foreign commerce of this important portion of the United States should go direct in American bottoms to foreign ports. Harness the rivers of this fruitful valley and we shall have a cheap and effective means of transportation; and a mighty impetus will be given to the shipbuilding industry than could be given by any subsidy other than the moderate expenditure required for the permanent betterment of channels.

The Main Trunk.

"This convention does therefore declare the opening of a deep channel way connecting the Great Lakes on the north with the Gulf of Mexico on the south to be an imperative duty of the general government; and that this work should be immediately begun and completed as speedily as possible.

"Any plan for the inland waterway development so imperatively necessary to the material welfare of the valley should comprise a main trunk line in the form of a strait connecting Lake Michigan with the Gulf of Mexico by way of the Illinois and Mississippi rivers. The development of this trunk line should begin at once. The improvement of the branches of this main line, such as the upper Mississippi with its tributaries, the Ohio with its leading tributaries, including the Tennessee and Cumberland, the Missouri, the Arkansas, the Red, the White and other rivers, and the interstate inland waterway of Louisiana and Texas, should proceed simultaneously with the development of the principal line.

Chicago's Achievement.

The deep waterway is practically complete from Chicago to Joliet through the courage and enterprise of the single city of Chicago, which has by the expenditure of \$55,000,000 created a deep waterway across the main divide between the waters of Lake Michigan and those of the Mississippi. A special board of survey, composed of United States engineers, reported to Congress in 1905 that the continuation of the deep waterway from Joliet to St. Louis was feasible and would cost only \$31,000,000. The state of Illinois, assuming that the federal government will take the responsibility of completing the waterway to the Gulf, is about to cooperate to the extent of \$20,000,000.

"The delegates to this convention heartily congratulate the great commonwealth of Illinois and the splendid city of Chicago on their initiative, and express the hope and belief that their example will influence other states and lead to similar effective cooperation.

After the Engineer's Congress.

"A special board of survey, composed of United States engineers, was, through the efforts of this association, created by Congress last year to survey the deep waterway route from St. Louis to the mouth of the Ohio, and to report to Congress the feasibility and cost of the waterway. That board will report during the winter; and we, the delegates to this convention, demand that when this report is made, Congress shall at once provide funds sufficient to begin operation in a large and effective way.

"The broad plan for improving all the waterways for navigation should take into account of all other uses of waters and benefits to be derived from them by the people; should consider the conservation of the natural resources of the country in their relation to commerce and navigation; should extend to forest preservation, reservoirs and other means of stream control, and the maintenance of the level of our Great Lakes in such a manner as not to interfere with their navigation and commerce; should consider floods and their prevention, together with irrigation and drainage; should take account of bank-revetment, levee-building and other means of protecting the bottom lands and increasing their productivity, and should contemplate regulation of terminals with a view to rendering rail transportation and water transportation complementary and jointly useful to the people of the country.

"This convention is in hearty accord with the movement for the conservation of the natural resources of the country, and heartily approves the efforts of the National Rivers and Harbors Congress in seeking to develop the waterways of the nation.

Illinois Must Act.

"Fully realizing the importance of the proposed constitutional amendment unanimously submitted by the Legislature of the State of Illinois to be voted on the 3d of November, and recognizing in it a practical step in the direction of the realization of this project; and also recognizing in it the first great movement by any State in the matter of the conservation of its natural resources, we approve said constitutional amendment and commend it to the favorable consideration of the voters of Illinois.

"We, the delegates in this convention assembled, representing half the people and three-fifths of the productive energy of the United States, do hereby demand that a definite and vigorous policy of waterway improvement, beginning with the Lakes-to-the-Gulf deep waterway, be promptly adopted and put into operation by the national government.

"To the enforcement of this demand we pledge our individual effort and our united support; and we pledge our personal honor, each for himself and to each other, to support no candidate for public office who will not unqualifiedly endorse and maintain that policy."

Railroads Build Cars.

The long-continued cessation in the demand for lumber from the various railroad companies has been interrupted recently by the placing of a number of large orders for cars which the carriers find necessary for handling their fall and winter trade. The large number of cars reported as idle gives no real indication of the freight equipment facilities of the roads, for the reason that a very great number of these cars are in such bad repair that it would be impossible to put them into service without practically rebuilding them. Within recent weeks reports from the south and west have come showing that already the car shortage is beginning to manifest itself in this important producing section, and the railroads apparently have awakened to the fact that if they are to secure the greatest possible revenues from their freight department it is imperatively necessary that they should add to their rolling stock.

The announcement has been made that orders aggregating 14,510 cars have recently been placed with the various car-building plants of the country, and as their construction will entail the use of between 75,000,000 and 80,000,000 feet of lumber, it brings considerable encouragement to the operators in this class of stock. These orders undoubtedly will be followed by others, and the buying trade of the railroads should soon be upon its normal basis; in fact, the roads have held off so long that it would seem that now that they are again beginning to go into the market, the volume of orders for sills, siding, decking, lining and other items of car construction should be larger than ever before.

The Power and Mining Machinery Company, Cudahy, Wis., in their bulletin No. 27, which has recently been compiled, call attention only to their improved Huntington Mills, with iron base. This mill is a centrifugal roller crusher and grinder. It can be used in place of stamp-mills, for coarse and fine crushing in concentration plants, and wherever hard or soft rock has to be reduced to a fineness from twenty to eighty mesh. They claim that the mill is especially adapted for crushing clayey ores and for the reduction and amalgamation of gold and silver ores. In action, they state the mill resembles Cornish rolls with this difference, that the rolls set vertically and that they work in water. The crushing pressure is due to centrifugal force and no particle of ore escapes until fine enough to pass through the screens.

A full description of the Huntington mill is given in a bulletin sent free upon request, with illustrations, and its many merits are presented concisely and tersely. A list is also given of the repair parts for the mill with diagram.

ROCK PRODUCTS

FROM OUR OWN CORRESPONDENTS

ST. LOUIS, MO.

ST. LOUIS, Mo., Oct. 19.—There has been considerable activity in building operations. This activity is largely residences, apartment buildings and flats, but there are also churches and warehouses which should be included in this summary. The reduction in the cost of lumber, iron, cement and other building material, together with cheaper and better labor, is largely the occasion of this movement. There are numbers of parties who are interested in these moderate ventures who have been waiting for two or more years to secure the erection of their new homes. Syndicates, which pay heavily for the site, are obliged to put up a building as soon as practicable, since they know the investment is without earning power during the interim, and the cost of material is not usually a sufficient deterrent. The individual proprietor and the investor are governed largely by the cost of material and labor.

The John Pierce Company, contractors for the erection of the new Central Library, are about to begin operations. The work will be under the supervision of George F. Bodwell, who has had charge of the Chicago office.

The foundations for the McKinley Bridge, which is to span the Mississippi at this point, have been completed and the company are now arranging for going ahead with the steel superstructure. The terminal work will be left to be taken up when the land is cleared of buildings now occupying it.

The Building Industries Association, the new St. Louis organization for promoting the interests of the allied contractors, manufacturers and dealers, has arranged to have its own quarters in the Locust Street wing of the Century Building. There will be ample space for the accommodation of the daily session of the association and the various committee and office rooms. Provision will be made for an exhibit room.

There are at present eight large public or semi-public buildings either under way or about to be started, together with two others which will be on the market later, as the plans are prepared for the same. The list is as follows: The Cathedral, the Central Library, the Coliseum, the Postoffice, the Insane Asylum, the Orphans' Home, the addition to the hospital and the Municipal Building. In addition to these large structures is the La Salle office building. The erection of these buildings means the expenditure of many millions for labor and material and provides a large amount of business for all the trades represented in this class of work for a long period to come.

Edward Quebbeman, sales agent for the Universal Portland Cement Company, states the demand for cement has been very free. He is gratified to note the indications are favorable for October being a better month than last month; in fact, it is likely to prove to be the best of the year. They are supplying over 7,000 barrels of the Universal brand for the St. Regis Apartment House and large quantities for the Anheuser-Busch Green Tree Brewery, Children's Orphans' Home and other new city buildings, besides having a large demand from country points. Customers almost invariably urge prompt shipment.

Mr. Cranery, sales manager of the cement department of the Union Sand and Material Company, is of the opinion that the plants situated in the Middle West are securing considerable new business in St. Louis territory this season at the expense of eastern manufacturers. All other things being equal, the freight rate and the length of time taken in transportation, as indicated by past experience, tend to throw business into the hands of the local companies. There has been so large an increase in the construction of buildings of medium size that the falling off in the erection of office buildings, for instance, has been more than offset; and besides this there has been an excellent demand from outside territory.

Capt. Frank S. Clark, who has the position of general sales manager, states the works of the new Continental Portland Cement Company were completed last month and started up about October 1, though deliveries of its product will not be made until November 1. Captain Clark was formerly with the United States Portland Cement Company, of Bedford, Ind. The company has already secured numerous orders for its brand. The contractors for

one of the large new buildings has placed an order for the cement required in its erection with the company.

Frank Steeg, general sales agent of the Acme Cement Plaster Company, states the Los Angeles and Palmdale plants are running. Customers have evidently allowed their stocks in many sections to run down to a low point, since many of them accompany their orders with urgent requests for prompt shipment and also for tracing. Since June 1 their business has been in excess of the same period last year. Among the contracts where Acme plaster will be used are several courthouses in different parts of the country.

The P. M. Bruner Granitoid Company state there is a moderate amount of sidewalk construction going on in the city. There is more doing, however, in street work, both granite blocks and macadam.

The asphalt plant of the Barber Asphalt Company and the Barber Roofing Company at North Venice, Ill., was destroyed by fire the night of October 14. The plant consisted of a double brick building having a frontage of about 125 feet. The loss is estimated at \$50,000. There were 200 men employed.

E. C. Strathmann, superintendent of the Bedford Stone and Construction Company, of Indianapolis, contractors for the new Postoffice to be erected at Eighteenth and Walnut Streets, was recently in the city. He and Charles F. Gallenkamp, surveyor of customs, went to the site and looked it over. As a result of their investigations and conference it is expected that ground for the new building will be broken in about two weeks.

A new mercantile building for which plans are being prepared will be erected on the corner of Seventh Street and Washington Avenue. The structure will be nine stories in height, thoroughly fireproof, of handsome exterior, and will cost about \$150,000.

Plans are completed for the erection of a handsome apartment house on Cook Avenue near Taylor Avenue, to cost \$100,000. It is to be of brick and concrete, three stories in height.

The Colorado Lime Company state the demand for lime continues good, particularly for their white lime. Besides supplying the city trade they are having a very satisfactory demand from the West.

The Glencoe Lime and Cement Company, by virtue of their wide acquaintance, get their share of the demand for building material, particularly lime. While trade is not active, there is always a sale for so staple an article.

The Hunkins-Willis Lime and Cement Company have for many years enjoyed an extensive southern trade and have a steady call for lime and cement from that territory as well as from their local trade.

The Charles W. Goetz Lime and Cement Company, being one of the oldest St. Louis producers of lime, and also largely identified with the cement business, can safely count on securing their share of the current trade in both lines.

The Banner Lime and Cement Company, relying wholly on local trade, has provided itself with convenient distributing depots in various parts of the city.

MEMPHIS AND THE SOUTHWEST.

MEMPHIS, TENN., Oct. 19.—Several of the builders' supply houses are considering the new cement asbestos shingle, which has been going the rounds for inspection lately. The shingle is a very practical one, being light, durable and fireproof. It is known as the Asbestos Century shingle and is manufactured by the Asbestos Slate, Shingle and Sheeting Company.

Dirt has been broken for the erection of the new warehouse of the Memphis Paper Company on Georgia Street near Main. The building when completed will cost about \$60,000. It will be constructed of reinforced concrete, will be six stories in height and will have a complete fire sprinkler, ventilator and conveyance system. Jones & Furbinger are the architects and McKnight & Barker the contractors.

The new incline at the foot of Monroe Avenue, finished a short while ago by the city, is meeting with great approval by those hauling freight from the river, as it does away with much of the hard pull which was so tedious on the horses. The new pavement is constructed of block limestone, set in a concrete foundation. The street is about 100 feet wide and the horses pull it up on a zigzag course. It was first thought that a tramway would be necessary at this point, but the incline seems to be filling the ticket.

Work on the new Y. M. C. A. Building was suspended for a short time, due to a strike of the iron workers. The iron workers claimed non-union men were being used on the job when their services were not utilized. They brought out the masons, concrete

mixers, and in fact every union man on the work. Other labor was secured and it is thought that all will be arranged amicably. This building, which is made of reinforced concrete, will cost about \$100,000. The front will be of pressed brick and stone. It will contain a large gymnasium, dormitory, swimming pool and other conveniences. Oslen & Lesh are the contractors.

BUFFALO, N. Y.

BUFFALO, N. Y., Oct. 16.—The Great Lakes Construction Company have begun work on the retaining walls that will form the harbor in North Tonawanda, N. Y., in connection with the 1,000-ton barge canal improvements in that city. The walls will be built for a distance of nearly 400 yards and will be of concrete. They will be twenty-five feet in height and their foundation will be considerably below the bed of the enlarged waterway. They will be eleven feet wide at the bottom and three feet wide at the top. A cofferdam has been built to keep the water from interfering with the concrete work. The contract will probably take all winter and the greater part of next summer.

A new concrete walk has been placed in front of the store of H. L. Ferrand, of Gardenville, N. Y.

A new concrete contagion pavilion will be built in Hornell, N. Y. The structure will be about two and a half stories in height and will be as near fireproof as possible.

Three sub-stations made of concrete and brick are being built by E. J. Bailey, of Brocton, N. Y., for the Buffalo and Lake Erie Traction Company.

A contract to lay 25,000 feet of concrete walk in Kenmore, N. Y., has been given to Large & Co., of that place.

Mumm & Co. have the contract to build a concrete dock near the Park Lake boathouses in Buffalo.

F. C. Lauer & Sons Company, of Rochester, N. Y., have received the contract to build a new sewer and trap rock macadam pavement on Rugby Street in that city.

Arthur McMullin, of New York, was the lowest bidder on the New York State barge canal contract No. 55. His bid amounts to \$905,347. The contract provides for the construction of a reservoir dam and structures at Delta, at the headwaters of the Mohawk River. Two bids were received in connection with contract No. 61 calling for the improvement of the Erie Canal for nearly seven and a half miles easterly of the west line of Monroe County. E. M. Graves, of Cleveland, was the lowest bidder, the amount being \$1,047,904.

The Mercer Sand Company, of Mercer, Pa., which will have offices in the Erie County Bank Building, in Buffalo, has been incorporated. The capital stock is \$1,000, and the directors are O. J. Lewis, Allegany, N. Y., and C. S. McGavern and Myrtle McGavern, of Mercer, Pa.

Whitmore, Rauber & Vicinus, of Rochester, N. Y., have secured a contract to build an asphalt pavement on Westminster Road in that city. W. A. Margrander will build cement walks on Jay Street in Rochester. Similar walks will be built by Ripton & Murphy on Hobart Street in that city.

Contractor Hogan has erected a new cement house in Port Colborne, Ont. He has secured a breakwater job at Port Maitland, Ont. He will make cement blocks in the former place.

Concrete walks have been built on the Courthouse grounds at Exchange and Hawley Streets, Binghamton, N. Y.

A crusade is being conducted in favor of the use of concrete in the reconstruction of the mammoth sheds burned at the live stock market at East Buffalo. A Buffalo newspaper had the following to say on the subject: "The old wooden sheds destroyed by fire cost about \$140,000. The new ones proposed would cost about 10 per cent more for the same area, owing to the advance in the cost of timber and lumber. If concrete is used there will be fire walls and floors of concrete, and sewers. The total cost of this superior and sanitary fireproof structure will be only about \$218,000. The United States Government has similar concrete buildings at the Old Soldiers' Home at Washington, D. C. They are found at all model agricultural establishments both abroad and in this country."

Thomas Fitzgerald, Jr., has secured a contract for paving a part of Central Avenue, Fredonia, N. Y.

The Hassam Paving Company, of Worcester, Mass., has brought a suit against the city of Buffalo for alleged infringements upon a patent method of laying pavements.

Mayor Adam, of Buffalo, has expressed himself as strongly in favor of a municipal paving plant.

It is reported that a viaduct costing \$100,000 will probably be built over Chautauqua Creek Gorge, in Westfield, N. Y.

Edward A. Lipp, of Lipp & Nauth, Buffalo roofers, has filed a petition in bankruptcy, with liabilities amounting to \$1,401 and assets worth \$1,225.

It is said that the Villa Road Culvert at Schenectady, N. Y., will be widened at a cost of \$55,000.

The village Board of Trustees of Penn Yan, N. Y., has secured the services of Contractor Charles Kelley to open up new street in that city.

Ontario County, New York, is to have two new State roads. It has been reported that bids will be opened November 11.

Plans are being considered for the construction of an adequate outlet for the Hertel Avenue trunk sewer in Buffalo.

Contractor John J. Tyne has been awarded a contract to protect the outlet of the Fourth Ward trunk sewer in Binghamton, N. Y.

J. F. Connolly, of Toronto, Ont., has agreed to build a trunk sewer in Welland, Ont., at a cost of \$51,000.

SAN FRANCISCO, CAL.

SAN FRANCISCO, Oct. 15.—The building material trades have shown a decided increase in activity during the month of September, especially toward the end of the month, and with business remaining lively thus far in October there is a good prospect of a steady movement through the winter. Prices are still low, but not more so than they have been for several months, and if the demand improves in the future as it has done in the last few weeks it is likely that an advance will take place shortly, as accumulations are beginning to decrease.

The showing made by this city in the matter of building in September is surprisingly good. The valuation of structures for which permits were issued is given as \$3,799,543, in comparison with \$2,450,000 for August and \$3,139,027 for July, making September the best month of the year by considerably over half a million dollars. Notwithstanding the fact that an increasing proportion of the amount is for frame structures, the amount of brick and concrete construction is gaining. Reinforced concrete is hardly as much in vogue as last year, but a number of contracts recently let, and still more plans which are about to be carried out, show that it is again coming into favor. The majority of the work now going on or in immediate prospect is on buildings five stories or less in height and valued at \$100,000 or less, but the entire amount calls for a great deal of material. There are also a number of large building projects outside of San Francisco for which contracts have recently been let.

Many of the local architects are strong advocates of reinforced concreting for large buildings. John B. Leonard, in a lecture before the Commercial Club of Portland, Ore., recently discussed at length the lessons taught by the San Francisco fire, concluding that the highest type of fireproof construction is reinforced concrete, faced with brick, such as the Breuner Building, recently completed in Oakland. The great stability of the old Palace Hotel he attributed largely to the fact that 10 per cent of cement was used in the mortar. As to the stability of concrete against earthquakes, he cited the museum of the Stanford University, the concrete portions of which stood the test, while other parts failed.

According to the annual report on mineral production in the State, Solano County leads, Napa County is second and San Bernardino County third. The total value of the cement made in these three counties last year was \$2,585,577. Los Angeles, Contra Costa and Alameda Counties are the leading brick producing districts.

Comparatively little cement is being imported here at present, largely on account of the large stock of the domestic article on hand and the low prices which have prevailed. There is also a large falling off in the cement tonnage bound for Portland, Ore., from foreign ports, which is attributed to the decrease in new railroad and other projects.

H. W. Postlewaite, president of the Holmes Lime Company, says: "The price of building materials in the San Francisco market is as follows: Common red brick, \$7.50 per thousand on the job; domestic cement, \$2.05, and imported cement, \$2.75 to \$3.25; lime, \$1.15 per barrel; plaster, \$8 to \$10 per ton; crushed rock, 75 cents to \$1 per yard; lumber, \$11 to \$15 per thousand; skilled labor, \$3.50 to \$5 per day. Two years ago common red brick was \$12.50 per thousand; domestic cement, \$2.65 to \$2.75; imported cement, \$3.50 to \$4.50; lime, \$2.50 per barrel; plaster, \$12 to \$15 per ton; crushed rock, \$3 per yard; lumber, \$28 to \$40 per thousand; skilled labor, \$7 to \$9 per day. The efficiency of skilled labor today is double what it was two years ago. There is a considerable amount of building going on at the present time, but money is scarce and cannot be ob-

tained for less than 7 per cent on gilt-edged securities. During the last two or three months money has been easier, but the rate of interest remains firm."

An ordinance of the local supervisors passed last year required that all sidewalks in the burned district which were missing or out of repair should be reconstructed before May 1 last. The Merchants' Association has been making an inspection and has called the attention of the supervisors to the fact that to a large extent the ordinance has not been complied with. Steps are now being taken to put the walks in repair. Wooden walks, however, will be permitted until May 1, 1910, after which cement walks are required.

Architects who have been investigating the ruins of the old City Hall recommend that they be torn down and an entirely new structure erected. The cost of an entirely new structure of similar capacity to the old one is estimated at \$5,250,000.

The State Board of Prison Directors is carrying out an elaborate plan for the improvement of the buildings at San Quentin Prison. The work which is now being started is the construction of a large cell house of reinforced concrete. Gray Brothers have secured the contract for crushed rock at 62½ cents per yard. Sand at 69 cents per yard will be secured from the Bay Development Company, and cement at \$1.48 per barrel from the Western Building Material Company. Concrete mixing machinery worth \$2,460 has been purchased from N. B. Livermore & Company, and a concrete cart from Henry & Blue for \$230.

The harbor commissioners have decided that the walls and roof of new wharves now under construction shall be built of reinforced concrete instead of corrugated iron, as had been specified.

The White Company is having one of the largest garages in the country built at the corner of Van Ness Avenue and Market Street. The building is to be of reinforced concrete throughout and will cost \$94,670.

A contract has been let for the construction of a six-story reinforced concrete hotel building on Market Street opposite Grant Avenue, which is to cost \$420,000.

W. J. Dingee, of the Santa Cruz Portland Cement Company, has bought twelve and one-half acres of clay beds near Glenwood, Cal.

Plans have been completed for the new immigration station at Angel Island. They include a concrete breakwater and a power house of reinforced concrete.

John Q. Packard, of Santa Cruz, died October 1. Mr. Packard was one of the originators of the San Vicente Lime Company, which was sold some time ago to the Santa Cruz Portland Cement Company.

Work has been commenced on the property of the West Coast Portland Cement Company, which has completed plans for the installation of a cement plant at Lime Point, near Lewiston, Ida. It is expected that the machinery will be put in operation by December 1. The first machinery will have a capacity of 100 barrels a day, and additional buildings will be constructed as fast as possible from the material produced by the preliminary equipment.

F. H. Mason, R. K. Neil, J. W. Graham and other Spokane, Wash., men are interested in the Acme Cement Company, which plans to erect a \$700,000 cement plant on Pend d'Oreille Lake in Idaho. Stock to the amount of \$300,000 has been subscribed, the capital stock being \$2,500,000, and an issue of 7 per cent fifteen-year bonds is to be made. The cement beds and some 1,500 acres of land have been bought and paid for. Some cement has been made for test purposes, and the results are highly satisfactory. The Inland Empire Railroad promises to extend its line to the site of the plant.

The steamer Hilonian sailed for Honolulu with 9,000 sacks of cement for the Government improvements at Pearl Harbor.

Frank L. Winter, who promoted the lime company which has been in successful operation in the Hawaiian Islands for the last year, is starting a new project for the manufacture of both Portland cement and hydrated lime. The materials are found near Wainanae, within 3,000 feet of a feasible harbor. It is proposed to organize a company with a capitalization of \$500,000 preferred and \$500,000 common stock.

The California Lime Company, of Yreka, Cal., announces that it will soon commence work on its kilns.

C. C. Moorehouse has secured the contract for plastering the new eight-story Palace Hotel for \$68,000.

Serious trouble was threatened last week by the refusal of the Plasterers' Union to set plaster ornaments in the ceiling of the First National Bank Building. The matter was adjusted, however, after a number of non-union men were put to work.

The Utah-Nevada Plaster and Cement Company, in which a number of Salt Lake men are interested, will

soon begin the construction of a mill on its property near Las Vegas, Nev. The plant will use the kettle process and will have a capacity of 150 tons per day. The company owns a large deposit of gypsum near the line of the Salt Lake Railroad.

A \$17,340 contract for the plastering of the Royal Insurance Company's building at the corner of Pine and Sansome Streets has been awarded to Smyth Bros.

The Western Gypsite Company has been incorporated in San Francisco, with a capital stock of \$25,000, by W. H. Bowie, I. H. Storey, J. W. Burness, D. Austin and John Martin.

Haskell & Butterfield are considering a proposition to start a plant for the manufacture of imitation marble on the Oakland estuary.

The Piedmont Paving Company, of Oakland, has secured a contract for a riprap wall on the channel between Lake Merritt and the Oakland estuary. The bid was 88 cents per yard.

The San Fernando Rock Company has been incorporated in Los Angeles, with a capital stock of \$100,000, by D. Kimball, O. S. Smith, C. E. Hedgson, P. N. and J. M. Nissen.

The Saratoga Gravel Company has been incorporated in San Jose, Cal., with a capital stock of \$100,000, by E. W. Knapp, C. C. Bell, E. B. de Grolia, G. T. Oldham and C. P. Bell.

S. H. Woodruff's petition to be allowed to blast in his rock quarry at Douglass and Twenty-sixth Streets, San Francisco, has been refused.

The Columbia Crushed Rock Company has been incorporated in Portland, Ore., with a capital stock of \$10,000, by R. J. Moylan, T. J. Moylan and R. W. Walker.

INDIANAPOLIS, IND.

INDIANAPOLIS, IND., Oct. 19.—It is probable that the cement block and reinforced concrete ordinance that has been pending before the City Council since May will be called up for action within the next few days. However, there is little doubt but that the two items will be separated and a separate concrete block ordinance passed.

The ordinance was drafted last spring by a committee consisting of Building Inspector T. A. Winterrowd, two architects, two engineers and two cement block manufacturers. The council has shown little disposition to pass it, owing to the opposition of the brick men.

According to H. E. Goodwin, one of the leading local block manufacturers, those who are inclined to make an honest block find little market for them, owing to the keen competition offered by manufacturers of inferior blocks. It is reported that 20-inch blocks have been sold as low as 8 cents each. The regular price has been 1 cent an inch, although some manufacturers have been selling good 16-inch blocks at 12 cents.

In a way, block manufacturers will gain a concession in the proposed ordinance, as it will require only 10-inch walls, whereas the present building ordinance requires 12-inch blocks the same as brick.

The Lehigh Portland Cement Company made some big shipments from its Mitchell plant last month, indicating a return of prosperity. In one day last month, ninety-six carloads of cement, consisting of 15,000 barrels, were shipped. In September the plant shipped out 300,000 barrels, a better business than in the same month of the previous year.

A concrete dam across Fall Creek, near Northwestern Avenue, will be built soon by the Indianapolis Light and Heat Company, the plans having been completed. The work is made necessary in order to provide a sufficient supply of water for its plant. Bids will probably be asked for the work soon.

The Marion County Construction Company on October 3 completed the repairs on the dam in Fall Creek, in Riverside Park. The work was undertaken on a basis of 15 per cent profit above the actual cost of construction, the work costing about \$14,000. Last fall similar repairs were made at a cost of \$8,400, but the water washed out the concrete apron.

Because of a shortage of water, due to the prolonged drought, the United States Cement Company was compelled to close its plant near Bedford, part of September. The plant gets its water supply from Leatherwood Creek and the water got below the intake pipe.

Suits aggregating \$49,000 have been brought against the Indianapolis, Crawfordsville and Western Traction Company by the Moore-Mansfield Construction Company, of this city. The company had contracts for a number of concrete bridges along the road and charges that the road has never made full payment.

While the cement market has been fairly satisfactory during the season, prices are still considerably below what they were one year ago.

ROCK PRODUCTS

PHILADELPHIA, PA.

PHILADELPHIA, Oct. 19.—Founders' week, with its multiplicity of noble attractions, quite shattering for the time all industrial proclivities, is a thing of the past and the eager spirit for business and gain is once more uppermost. There seems to be a want of snap in the cement market in this section just now, though better reports are coming in from out of town. There has been a falling off in concrete construction work, but there is a fair amount of large work in contemplation, the materialization of which, it is believed, will depend upon the result of the coming election. Operative building work has shown some improvement of late, consequently there has been more activity in builders' supplies trading. Fire brick is running along smoothly; lime, mortar, etc., are moving more lively, with the outlook encouraging.

The first exhibit in line in the great industrial parade of Founders' week was that contributed by the Master Builders' Exchange. It consisted of an exact model of Carpenter's Hall, one of Philadelphia's most treasured historical landmarks, borne on a float handsomely decorated with flags and drawn by four horses. This building stood 13 feet 4 inches high, the groundwork 15 by 9 feet 4 inches. Another creditable showing was that of the Cyrus Borgner Company, fire brick and clay retorts, consisting of two floats, on the first of which twenty-four men illustrated, for the edification of the multitude, the process of the manufacture of fire brick; the second showed a skillfully constructed kiln in complete operation. Among other notable and worthy displays in this department were those of David Lupton's Sons, architectural metal work, and those of the Italian Mosaic Marble Company.

The Engineers' Club, 1317 Spruce Street, has again resumed business and social relations. A meeting was held on October 3, with an attendance of 100 members and visitors, Vice-President William Easby, Jr., in the chair. After the minutes of the business meeting of September 19 were read and approved, the secretary, H. G. Perring, announced that the idea of organizing a company of engineers was about to take tangible shape and that Captain Dunning, of Company A, First Battalion Engineers, would be at the clubhouse on the following Thursday with some of the members of the company for that purpose. The secretary also read extracts from Myron H. Lewis' paper on "Waterproofing as an Engineering Problem." Other matters before the meeting were strictly of a private nature. Another meeting will be held on October 27, at which there will be an election of new members. A committee, with George T. Gwilliam treasurer, is making arrangements for a big club smoker to take place October 31, Hallowe'en. It goes without saying that it will be a jolly and most enjoyable affair.

E. E. Nickson, Philadelphia representative of the National Fireproofing Company, 317-19 Land Title Building, reports a dearth of large work at this time, but it is understood that there is considerable work of this class in contemplation, the execution or non-execution of which depends much upon the result of the fast-approaching presidential election.

Charles Warner Company, 811 Land Title Building, reports cement trading a little off, but as there is considerable building going on, the other lines of building supplies are showing up much better.

J. T. Wakeman, Philadelphia representative of the Edison Portland Cement Company, 613A Arcade Building, admits a slow movement of cement in this section, but sees signs of improvement later on. Reports coming in from other branches of the company are of a more encouraging nature, consequently the aggregate volume of business is far from bad.

The Lawrence Cement Company, of Pennsylvania, 615-619 Harrison Building, L. V. Clark, Philadelphia representative, states that business is steady and of a fair quality, with prices holding about the same.

The Cedar Hollow Company, of Cedar Hollow, Pa., reports lime kilns in full operation; no complaints as to conditions.

The McCoy Lime Company, of Bridgeport, Pa., is busy and regards the outlook promising.

The Keystone Lime Company, near Conshohocken, Pa., is moving considerable material. Consequently it is not inclined to find fault with the times.

The Whiteland Lime Company, Devault, Pa., is able to keep its men steadily employed. Good orders are coming in and the weather has been favorable for getting out the product.

William B. Irvine, president of the Knickerbocker Lime Company, Inc., 366 North Twenty-fourth Street, reports a better showing of late in building material trading than for some time, and considerable work is contemplated for the near future.

Mr. Houck, of the Philadelphia Fire Brick Works, Vine above Twenty-third Street, says that things are coming around gradually and no doubt will be in

fine shape when the uncertainty attending the coming election has ceased to disturb.

The Cyrus Borgner Company, fire brick and clay retorts, Twenty-third above Race Street, is patiently watching developments. Mr. Borgner states that trading is still a little quiet, but that he does not, like the majority, look for any decided change for the better until after the election.

The Romano stone-crushing plant, on Rattlesnake Hill, near Pottstown, Pa., was completely destroyed by fire on September 22. The loss is estimated at over \$50,000.

It is announced that the American Feldspar and Kaolin Company, capital \$500,000, with its main offices in this city, will take over the Rochester plant of the Pennsylvania Feldspar Company, on the west bank of the Genesee, and double its capacity, making it the largest plant of the kind in the world.

On September 25 the Dexter Portland Cement Company, of Nazareth, Pa., filed at Harrisburg papers of its increase of its capital stock from \$500,000 to \$1,000,000 and of an issue of bonds of \$170,000.

On September 30 the Patrizo Art Mosaic Company, Pittsburgh, obtained a charter under the Pennsylvania State laws; capital, \$5,000.

Israel Kline, a building contractor, aged 77, died on October 4 at his home in Schuylkill Haven, Pa.

The Eastwick Plaster Company, manufacturers of gypsum products, whose works are at East Fall, Philadelphia, Pa., report good orders coming in for products from the cement districts. They also have some large contracts about consummated in Philadelphia, in the South and in foreign countries adjacent to the United States. The business is growing so rapidly as to necessitate the enlargement of its plant, for which the preliminary steps have already been taken.

Oliver Randolph Parry, architect, has removed to 1722 Chestnut Street, where he will have better facilities for handling his constantly increasing business.

CLEVELAND, O.

CLEVELAND, O., Oct. 19.—One of the most important developments of the past month has been the favorable consideration by the City Council of an ordinance increasing the height of concrete buildings from six to eight stories. Although opposed by the building inspector, it was decided that with certain changes concrete buildings could be safely built to the height of eight full stories. The action was the result of an agitation started some weeks ago by M. A. Bradley, who desired to erect an eight-story building at East Second and Prospect Avenue. The building code, written some few years ago when concrete was in its infancy, has been once amended, raising the limit from four to six stories, despite the fact that successful concrete structures to a height of twelve stories have been built in other communities.

The matter was referred to a committee of Building Inspector Lougee and Architects F. S. Barnum and B. S. Hubbell. Evidence was presented by many contractors and by a committee of the Builders' Exchange, all favoring an increase in the limit. The committee reported favorably on the request providing that the steel reinforcement be of sufficient strength to carry 75 per cent of the dead load. This was agreed to and the ordinance passed. It was also decided to allow the use of slab concrete floors in buildings to a height of sixteen stories.

Despite the lateness of the building season, several large projects have been announced within the past month, which are to be begun early next spring. These include a new high school, two grammar schools and a normal school for the Board of Education.

From building records of the city the year 1908 will pass into history as about equal to 1905, but will be eclipsed by the past two years. If the amount of work planned this year had been executed it would have equaled or exceeded last year. It is a fact, however, that some of the biggest permits which helped to swell last year's totals have had their main work done on them this year and that the supply men have benefited greatly by the sale of materials for these big jobs.

The next two or three years will see the use of vast quantities of concrete in the elimination of grade crossings in this city. At least three railroads have plans for elevating or depressing their tracks. In either case concrete will be used. Elaborate concrete girder bridges are planned for some of the residential districts by the Nickel Plate Railroad where it passes through the eastern portion of the city. Ornamental effects are expected to offset some of the inconvenience of having the railroads present.

A great amount of work in concrete has been done this year by the county engineer's department. There are about 4,000 culverts and bridges of one sort and another in this county. Three years ago the engineers

started in to convert every bridge into concrete. Where new brick roads are being laid old bridges have been found rotted and badly decayed, and in every case are being renewed with permanent structures. A number of large bridges have also been erected. Another is planned at a cost of \$15,000 over Rocky River at Mastick Road. Work will begin on it early next spring. An effort will be made to make it ornamental as well as useful.

The Hunkin Brothers Construction Company has been awarded the contract for a large retaining wall at the plant of the American Shipbuilding Company near Edgewater Park. It will be twenty feet high and 500 feet long, being several feet in thickness. It will be reinforced. Other work of a similar character is to follow.

The National Fireproofing Company has begun work on two concrete buildings for the Goodrich Rubber Company, at Akron, at a cost of \$160,000. They will be five stories in height and built suitable for factory purposes, for which they are to be used.

A new normal school building to cost \$100,000 will probably be erected in conjunction with the John Hay High School, which is to be begun early next spring and rushed to completion for occupancy in the late fall. Both buildings will be of the most modern type and will be fireproof throughout. Plans have been completed for the high school and are being evolved for the Normal Building. Two elementary schools are also being planned. The new Columbia School, a twenty-room building, is now under construction, as is the new Mayflower Building, a similar structure of the same size.

Plans have been matured for a mighty Stadium to seat 80,000 people at Brookside Park, where there is a natural amphitheater about the shape of a grape bowl with a five-acre area as a bottom. It is planned to place tiers of concrete about three sides and build seats on them. The top will be covered with a great canvas tent. The Stadium will be developed gradually, the first section being made to accommodate 25,000 people. It is believed that this can be done for \$50,000. Considerable money has already been subscribed towards the project, which is the idea of City Clerk Perter Witt.

While the drouth of the past summer was very disastrous in many ways, it was a blessing in disguise as regards the city's work in building a concrete bridge over Mill Creek, at the Warrensville Farm, at which point are located the Infirmary and Workhouse buildings. It was planned at first to divert the creek while the bridge was being built. When the drouth came and the thirsty earth drank up the water from the creek, the work on the base was rushed and the bridge completed while the bed of the stream was still dry. The saving in cost was considerable. City authorities have declared the bridge will last 500 years.

Fifty thousand cubic yards of concrete have entered into the construction of the new Belt Line about the city thus far. It is about half completed as far as length goes, but not more than two-fifths when the total mass of the work is considered. One great bridge crosses the Cuyahoga Valley for a distance of 1,974 feet. It is 150 feet high on an average. Massive footings were necessary for the girder work. In many instances the construction company was compelled to go down forty and fifty feet through sand and quicksand and establish a base on the solid shale. Many carloads of cement have been used in this work and much more will be required before it is completed, as the road has a number of concrete bridges to erect over streets, according to its present plans.

The American Steel and Wire Company has just completed a new set of concrete docks in this city along the river front. In one section where the river bed was diverted some years ago, massive docks have been built to accommodate the shipping of ore to the adjoining furnaces. The Standard Contracting Company, of Cleveland, did the work.

Andrew Dall & Son, contractors for the new Court-house, have been given permission by the County Building Commission to use non-stainless Lafarge cement for the marble work on the new monumental building. Much of the interior is to be lined with marble, and a considerable quantity will be needed. The Stowe-Fuller Company, of Cleveland, is the agent for the Lafarge Company here.

Portland cement continues to sell around the \$1.40 point for job lots. Big contracts get it for less. Naturals are holding their own, and the demand for slag cement continues somewhat limited.

The first boat to enter the upper river bed, passing the new Cleveland Furnace Company's plant, carried a cargo of limestone to the furnace about two weeks ago. The traffic in Kelley Island limestone this year has been lighter than usual, owing to dullness in the steel industry. A constantly increasing trade is looked for, no less than four new furnaces being planned for Cleveland during the next year.

THE TWIN CITIES.

MINNEAPOLIS, MINN., Oct. 15.—Conditions are getting around to a better state of affairs, and in the adjustment there has been a slight recovery in the price of cement, which had gotten rather low in the course of the past season, due to the falling off in trade and to the increased competition. This is likely to be followed by similar reactions in some of the other materials which have weakened under the stress of slow trade.

Harold Johnson, of Minneapolis, recently took a contract for \$60,000 worth of hollow tile fireproofing to be used in the construction of the new \$600,000 Court House to be erected at Duluth, Minn. It is one of the largest hollow tile contracts let in the Northwest in several years. The National Fireproofing Company furnishes the goods.

The Northwestern Cement Products Association has called its meeting for March 2 to 5, 1909. The committee in charge favors holding the meeting in Minneapolis, but this depends upon the provision of an adequate hall and other facilities. Duluth, Fargo, Grand Forks and Sioux Falls are all aspirants to entertain this convention. The matter of erecting a \$30,000 reinforced concrete building at the Minnesota state fair grounds was also taken up, and steps will be taken to that end. It is suggested that the various cement companies will furnish the cement, and the crushed rock operators will supply their material; the State Fair Association is expected to provide the labor required. Committees were named upon site and also upon plans and arrangements for the work.

The Northwestern Crushed Rock Company, of Minneapolis, is a new project of Luther W. Spear. Options are held on two limestone quarries and upon a number of trap rock locations. The company expects to furnish rock for concrete paving and macadam work generally.

A leading building material house of the Twin Cities is quoted as stating that the volume of business done in the month of September was the largest in their history. Some of it was not so profitable because of close prices, but the volume has made the total net profit among the better months.

The Minneapolis, St. Paul & Sault Ste. Marie Railway, or Soo Line, has announced a reclassification of roofing paper, which provides a reduction in the cost of transportation. This step is taken to enable western manufacturers to compete in the eastern markets. Other roads have met the change. The rate is from 28 cents per hundred to 16.

Johnson & Jackson, dealers in building materials, of Minneapolis, have issued a very attractive catalogue showing the various roofing materials which they sell, with illustrations in color of buildings, which are using their roofing. This enables people interested to view the roofing in actual use, before making a selection, and is found to be of material aid in solving this perplexing question.

The membership of the Duluth Builders' Exchange has increased from eighty-nine last year in August to 116 September 1, a little over a year. And none of the membership now has any agreement or dealings with a labor union.

The Twin City Rapid Transit Company, which operates the street railway system of the two cities, will erect a reinforced concrete warehouse and shop at the Snelling avenue shops, 86x300 feet, three stories.

The H. N. Leighton Company has the contract to erect a parish house for St. Paul's Episcopal Church, this city, at \$23,910. It will be of reinforced concrete construction.

The plans of Rankin, Kellogg & Crane, architects, of Philadelphia, were accepted for the new Mechanic Arts High School Building, which is to be erected next season in St. Paul. The building will be three stories and basement, about 200x200 feet in size, and fire-proof construction. Cost, \$300,000.

J. H. Hoffman was awarded the general contract for the construction of the superstructure of the chapel of St. Agatha's convent, at Ninth and Cedar streets, at \$72,679.

The Green and Delaitre Company, of Minneapolis, wholesale grocers, will erect a handsome wholesale house at Third Street and Fifth Avenue North, four stories and basement, reinforced concrete construction. The Turner mushroom system is to be used. The exterior walls will be of pressed brick with cast cut stone trimmings. Cost, \$75,000.

Fremont D. Orff, architect, has had his designs accepted for the erection of a grade school for Hibbing, Minn., to be of pressed brick fireproof construction, containing twenty rooms. Cost, \$85,000 to \$100,000.

The old power house of the street railway company, at Third Avenue North and Second Street, has been bought by W. B. & W. G. Jordan, wholesale grocers, who will remodel it throughout into a six-story jobbing building. Cost, \$150,000.

Work is to be started shortly upon the rotunda and lobby for the initial portion of the new Rogers Hotel building at Fourth Street and Nicollet Avenue.

H. E. Pence will erect a six-story fireproof building

at 800-804 Hennepin Avenue, for the automobile business.

James Leck has the contract for the erection of the new wholesale grocery building for the Green & Delaitre Company, to be four stories, reinforced concrete construction. Cost, \$50,000.

LOUISVILLE, KY.

LOUISVILLE, KY., Oct. 19.—Operations in the concrete line in this locality are now being confined to small work in nearly all cases. The number of large contracts for this kind of construction work have been very limited in the past few months, and as the season draws to a close there will be less given out. The reasons for this are plain, and there is no necessity for repeating them now. Everybody is of the opinion that next year will be a very active one, and they are evidently contenting themselves with this belief.

There has been a large number of small contracts given out, and the dry weather has been conducive to this work. Nearly all the large work has been completed and the contractors are making preparations for the advent of winter. Roofing has been slow on account of the dry spell, and there is not much in this line. Cement is in fair demand, though there is not anything very active about the industry now.

There are some very attractive structures here built of concrete, such as manufacturing plants, business houses and residences. On the whole there is something to be proud of in the progress that this industry has recently made here. It is reasonable to suppose that within another year there will be a very considerable amount of this work done here.

The Holmboe Company say that there is little being done in the concrete line now. They have recently completed some nice work, and are not looking for much more until after the new year.

The Central Concrete Construction Company say that they are busy, but that most of the work is confined to foundations, sidewalks and the like. They are not anticipating any large work until next spring, but as they have about all they can take care of, they are well pleased with the situation.

The Southern Roofing and Paving Company say that there is not very much activity with them now. Concrete work is slow and roofing is quiet on account of the dry weather. They do not anticipate much of a change until the election is over. They feel that the winter will not offer anything very startling, but count on a big year in 1909.

The National Concrete Construction Company are finishing up some of their big contracts and have not received any other work in several weeks. They say that they do not hope for much now, and are simply working along on what they have and getting in shape for next year. There will hardly be any change before that time.

Edward H. Troxell Company are keeping things on the move, though there is not any great activity with them in the concrete line now. They hope for a fair business in the next month or so.

The National Roofing and Supply Company say that there is a fair amount of concrete work in small jobs, and also a very reasonable number of roofing contracts to be had. There is not as much activity in the latter as they could wish to see, but they look for a change just as soon as the drought is broken.

Samuel F. Troxell Company are doing little in the roofing line now. They are, like the other operators, waiting to see the rain fall.

The Ingram Roofing and Asphalt Company are doing a considerable amount of figuring on work, but they do not see any immediate prospect for work unless the weather changes and there is more rain.

The Louisville Cement Company find the call for cement to be about all that could be counted upon at this time of the year. There is little activity, but enough to make the situation agreeable to them.

The Kosmos Portland Cement Company are hurrying work on their plant and expect to have everything in readiness by the first of the year. The recent catastrophe was not sufficient to daunt this enterprising concern, and they will rise phoenix-like from the ashes with renewed vigor.

J. B. Speed & Co. say that there is a good call for both cement and lime and that there is nothing to complain about on their part. They are busy and say that there is a demand for their cement all the time. The output of their plant has been used on considerable work here, and they are still busy on numerous orders.

The Atlas Wall Plaster Company find that there is no let-up in the number of orders for their product, and that they are about as busy as they can be. They feel that the future will be none the less favorable for them and are satisfied with the way that the business has held up this fall.

The Kentucky Wall Plaster Company say that there is enough activity to keep them operating all the time and that there is every reason to believe that business will continue the same the next few months. They are as busy as they were a year ago and therefore have nothing to find fault with on account of any lack of demand.

The Ohio River Sand Company are not very busy. The demand for sand has naturally been light, and there will hardly be much of a change in the situation in the next few months. Both building operations and street work have been slow this fall, and they have felt the slump.

The Louisville Fire Brick Works are finding an increase in the number of orders in the past month. They are operating now only about one-half time, but there is a decided increase in the number of orders, and they take this as a good sign.

The Burrell & Walker Clay Manufacturing Company say that there is some increase in the demand with them, but they are not nearly as much rushed as they should be at this time of the year. They feel that there will be more activity to the trade with the settlement of the election.

The Southern Brick and Tile Company are doing a very fair business, but there has been some decline in the call for their products in the past month. They are not complaining, however, and feel that there will be enough to keep them active for some time.

The P. Bannon Sewer Pipe Company say that there has been a very decided revival in the demand for their products and that the indications rather favor better business in the future. They are running their plant on full time now.

The Kentucky Vitrified Brick Company are considering the advisability of working some overtime at their plant. There has been a very nice increase in the demand for vitrified brick, and they are rushed with orders now. They feel that the demand will continue.

CHICAGO, ILL.

CHICAGO, Oct. 20.—Building operations now under way are being rushed by the contractors so that they will be under cover when cold weather sets in. The rush has meant that they need materials and consequently there has been a large demand for all kinds of building supplies.

The retailers, as well as manufacturers, of supplies are pretty well satisfied with the volume of business the past month, but not with the prices obtained. Nowhere near the prices of the corresponding month last year prevail.

There is a large amount of street work going on. The City Railway Company is making improvements in the roadbed and the work is an interesting sight. The improved methods show wonderful strides made in this branch of construction. The roadbeds are all laid in concrete and the ties for the rails embedded in concrete. The concrete mixer mounted on a car is a common sight now.

A number of large enterprises have been started and others are on the boards. The La Salle and the Blackstone Hotels are two of the largest under way. Both will have concrete foundations. The Chicago & North-Western Railway terminal station will be one of the finest in the country. While there has been somewhat of a decrease in factory and warehouse building, the number of flat apartment houses and residences has been on the increase. Many people are taking advantage of the reduced cost of building materials and labor.

One important contract which is holding the interest of builders in Chicago is that of the City Hall. The plans and specifications are now in the hands of the contractors. The bids will be accepted until 11 o'clock of November 2 by the Council committee. While the general plan of the building is a duplicate of the Cook County Building, a few changes are to be made and some improvements in materials and construction. One of the features in the construction is that concrete will be used in the floors in place of wood.

The Chicago, Burlington & Quincy Railroad and the Pennsylvania Railroad will jointly build a depot at Western Avenue. It will cost \$25,000.

The Pullman Company will erect an additional building at their plant. It is a one-story affair, 450x300 feet. The general contract has been let to R. & S. Solitt and they have already put in the concrete foundations. It will cost \$400,000.

Schwarzchild & Sulzberger, the packers, have begun the work on an additional building at their plant at Forty-first Street and Ashland Avenue. The building is of reinforced concrete, six stories high, 122x160 feet.

Egan & Prindeville, 85 Dearborn Street, are the architects for a two-story school building 230x61 feet for the Ephphatha School for the Deaf at 409 South May Street. It will cost \$100,000.

ROCK PRODUCTS

M. J. Neahr & Co., 89 South Clinton Street, will erect a three-story factory, 113x135 feet, at Sixteenth and Dearborn Streets, and a building 138x135 at 1613 Armour Avenue. The architect of the work is John M. Van Osdel, 225 Dearborn Street. The cost is to be \$90,000.

The Great Lakes Dredge and Dock Company, Chamber of Commerce, have the contract for building the docks at Gary, Ind. They have contracted with the Sanitary District for stone to be used as a filler on the docks. The stone is to be taken from the piles of refuse stone along the Drainage Canal, and will be carried by barges to the work. It will be loaded on the barges by steam shovels.

The O'Rourke Engineering Company, New York, have purchased a number six and a number four Austin crusher and will install a crushing plant at Feeding Hills, Mass. They have a large concrete contract and will crush the stone for the work.

The Marquette Cement Manufacturing Company report that their mill is very busy and their shipments will be heavy this month. They expect to run all winter as they have a number of orders on their books for delivery later in the season. They are furnishing the cement for the preliminary work of the City Hall building. This includes the concrete caisson work.

L. M. Wing, president of the Wolverine Portland Cement Company, Coldwater, Mich., was a Chicago visitor the past week.

Charles A. Whyland, president of the Elk Cement and Lime Company, says that they are well satisfied with their cement orders but not with the prices. They expect to run their mill until about November 15. The lime end of the business has been unusually heavy this year and they have enjoyed a good trade. They have made several shipments to Gary, Ind., and are also shipping to Englewood in Chicago. The crushing plant of the company is turning out crushed stone, which is very much in demand in Michigan. The principal use is in road building and their product has been found very satisfactory for this class of construction.

The Universal Portland Cement Company are very proud of their record they have made during the past three months. In that time they have shipped from their mill over half a million barrels of Universal cement per month. They are furnishing a large amount of cement for the concrete work on the Chicago Street Railway improvement work.

The Chicago Portland Cement Company report that they are very busy at their mill this month. They have a large number of small orders on their books and are very much pleased with the amount of business.

Charles H. Wood, sales manager of the Wolverine Portland Cement Company, says that they are having a much better business than they expected for October. Prices are not anywhere near what they should be. Their orders are in car lots and principally from the retailer in the small town. Mr. Wood says that he has added a number of new customers this year, which shows that Wolverine is more widely distributed than ever.

Meacham & Wright are, as usual, busy. They have a number of orders they are making deliveries on. This concern, being one of the largest handlers of cement in this territory, always has some large orders on hand.

The Illinois Lumber Dealers' Association and the Illinois Masons' Supply Association's 1908 directory will be out shortly. Secretary George Hotchkiss is at present at work on it and it will contain a revised list of dealers, both in lumber and masons' supplies. It will also contain new specifications for lumber products.

The Carbon Dioxide Company, manufacturers of carbonic gas, have put in a crusher and hydrator to manufacture a by-product. The limestone, after it has been used for the gases, is made into lime.

L. J. Hewes, district manager of the Power and Mining Machinery Company, reports the sale of a crushing plant to the Stone & Webster Engineering Corporation, Boston, Mass. The equipment includes two No. 5 and two No. 3 McCully crushers; hoists, elevators, screens and a No. 5 Smith concrete mixer. The plants are to be erected at Hauserlake, Mo., and are to crush the stone to be used as an aggregate for a concrete dam. The original dam was recently washed out and the United Missouri Power Company decided to replace it with a concrete dam. C. H. Mulfeld is the engineer in charge of the work.

The Austin Manufacturing Company, Chicago, through Sales Manager Moats, reports a number of crusher plant sales recently. Among them are a No. 8 plant for the Republic Iron and Steel Company, Birmingham, Ala.; a complete No. 4 plant for E. Dillons' Sons, Indian Rock, Va.; a No. 8 and a No. 6 Austin crusher, two screens, elevators, two hoists and twenty quarry cars for the Kansas City Brick and Stone Company, at Sugar Creek, Mo.; a No. 3 plant for William Carlin, Pawnee, Okla. They

are increasing their export business in the crushing line and have recently sold C. E. Helvie, Manila, Philippine Islands, a No. 3 portable crushing plant, as well as Walter Smith, Habana, Cuba, a No. 3 portable crushing plant.

The House of Berg Has Taken Canada.

(Continued from page 41.)

ficer of the company which has made good in the matter in introducing sand-lime brick into Toronto building work. The individual brick are not good looking but they make a very handsome wall. The bank sand used in making these brick is not up to anybody's specifications and the lump lime contains impurities in the shape of silicates in various compounds and it is none too evenly burned. The walls of the plant itself were built of the first brick made while experiments were still in progress with the proportions of lime, etc. It is not a thing of beauty by any means. The product has to be hauled by wagons at least two miles to reach any possible delivery. The lime used at the plant also comes in wagons. No pretense is made to separate or grade the material that comes from the sand bank further than to move the diggers into finer running sand when it is noticed to be too coarse. No expert superintendent is employed to oversee the work, in fact there are only six men to be found about the place. In spite of all these usually considered insurmountable difficulties the four-mold Berg press clips steadily along and they turn out 22,000 to 25,000 brick every day. A long string of teams is constantly employed delivering the product. There is no stock on hand and that can only mean that a market is found for every brick made. Another feature of this plant is that it is a regular money-maker. It has been in operation for nearly three years. A fine plant has been established at Edmonton, Canada, in the present year, which is making a fine showing also. We are illustrating Mr. Berg's residence on Gray Street, Toronto, which is built of sand-lime brick. Several blocks of similar residences on this same street are built of this material, some red, some buff and the others of the usual gray white color. There never was a handsomer wall built than those made from the product of the Canada Sand-Lime Brick Company. They have been tested and passed by the city building authorities and their own merits are doing the rest. There is another chapter on this topic that will be published later. There is a great and growing field before the Berg Machinery Manufacturing Company of Toronto.

Government Statistics.

The year 1907 showed an increase of \$55,764, or 4.77 per cent in the value of the sand-lime brick output of the country, the product being valued at \$1,225,769, as compared with \$1,170,005 in 1906. By far the greater part of this value in both years was represented by common building brick—\$1,030,913 in the later year as compared with \$997,311 in the earlier. There was also an increase in value of the front-brick output from \$163,345 in 1906 to \$188,221 in 1907. Fancy brick and blocks, however, showed decreases in both quantity and value of output in the later year. Michigan is the leading State in this industry, with an output valued at \$172,840 in 1907; Florida is second in rank, with an output in 1907 valued at \$109,275; and Indiana, with an output valued at \$97,527, is third.

The commercial development of the sand-lime brick industry does not date back more than twenty years in foreign countries and in this country is less than ten years old, the first plant having been built in Michigan City, Ind., early in 1901. In 1903 production was reported to the Survey by sixteen plants; in 1904 reports were received from fifty-seven plants; eighty-four plants reported in 1905, eighty-seven in 1906, and ninety-four in 1907.

Atlantic City Sandstone Brick Company, Atlantic City, N. J., has been incorporated, with capital of \$125,000, by Samuel L. Johns, Herman G. Weber and Harry L. Katz. The company will manufacture bricks, building blocks, etc., using beach sand and lime hydrate.

Importance of Drainage.

With an average of 27,000 tons of water falling in the form of rain on each mile of public road in the United States annually it is scarcely to be marvelled at that the ten commandments of the road builder can be summed up succinctly in the word "drainage."

The saying has truth for a basis, as good drainage is the primary requisite for all roads. Even in sand roads this holds true, for there "good drainage"

means such as will safely remove the storm water without erosion or gullying and still retain the surface moisture.

To secure good drainage one must take into consideration both the surface water and the underground water. The surface water must be removed quickly and completely and without subjecting the road to excessive scour or erosion.

But in many places the underground water is too near the surface and must be removed before a good road will be possible. This means that some form of sub-drainage must be resorted to, usually tile drains of clay or concrete. Water from whatever source must be gotten rid of effectively, for water plus clay or gumbo invariably equals mud when mixed in spring and summer. Water becomes ice in winter, and as water in freezing expands one-eighth its volume the road heaves out of shape and when the ice then melts the road disappears beneath the rising tide of mud constantly fed by rains, melting snows and underground springs.

In seedy and boggy places the sub-drainage in order to be fully effective should lower the water level to not less than three feet below the road surface. If tiles are used they should be carefully laid, true to grade. Most failures in tile drainage can be attributed to carelessness in laying, or to flat grade. Tile less than four inches in diameter should rarely be used, nor should a grade of less than six inches to the 100 feet be used unless absolutely necessary. If a very dense soil, it is always advisable to cover the tile to at least a depth of six to twelve inches with coarse sand or fine gravel. Care should always be taken to secure a free outlet for the drains and to protect the outlet with a concrete bulkhead or catchbasin, which can always be kept clean and the outlet free.

The kind of tile to be used depends on local conditions. Concrete tile, if properly made, are equally as good as clay tile. Which kind to use is entirely a local question of dollars and cents. If concrete tile can be made more cheaply than clay tile can be had use concrete, if not use clay tile.

One great advantage of the concrete tile is that they can be easily made by the local users at or near the place where they are to be placed, so that the freight charges are dispensed with, as well as the large breakage losses due to handling. Placed in the ground both are durable. If concrete is used great care should be taken to see that a good grade of Portland cement is selected, and that the drains are properly constructed. The impression which prevails to some extent that tile disintegrates is erroneous.

A bulletin is now in course of preparation by the United States Office of Public Roads telling how to make concrete drains. This bulletin will treat the subject fully, explaining carefully every point that may arise in making drain pipes and culverts.

New Bridge and Sewers.

PHILADELPHIA, PA., Oct. 14.—Proposals for the construction of a reinforced concrete arch bridge with a span of 70 feet, in the line of Fox Street, over the Richmond branch of the Philadelphia & Reading Railroad, Thirty-eighth Ward, were received and opened by Assistant Director Knight, of the Department of Public Works. The bids were twelve in number, and were as follows:

Millard Construction Company, \$27,000; Tomlinson Paving and Construction Company, \$40,500; Thomas H. Riddle, \$29,950; Thomas F. Reilly, \$32,913; McNichol Paving and Construction Company, \$29,493; W. W. Lindsay & Co., \$33,900; R. P. Dennis, \$29,400; Richard Walsh, \$27,937; David Peoples, \$30,200; Cramp & Co., \$33,200; McGaw & Gray, \$30,900, and John McMenamin, \$31,539.47.

This structure will be similar in design to the twenty-one bridges now under construction in different parts of the city, exclusive of bridges being erected along Ninth Street, north of Spring Garden Street, the money for which will come out of the \$1,000,000 item in the loan of 1904. Bids were also opened for the construction of thirty-eight branch sewers, the whole aggregating an expenditure of about \$140,000, to be paid for out of the loan of \$10,000,000 recently negotiated by Mayor Reyburn. The proposals for these operations were referred to be scheduled.

City Awards Contract.

FITTSBURG, PA., Oct. 17.—The city has awarded a contract to the Atlas Construction Company for the construction of 393 concrete steps running from Berthoud Street, near Center Avenue, to the top of Gazzam's Hill. The steps are to cost \$4,000. The city is making many street improvements. Contracts for work to cost over \$300,000 have been let. Ott Bros. secured a contract for the paving and grading of Michigan Avenue, and a big concrete wall is to be built. Booth & Flinn secured contracts for extensive improvements to South Side streets.

CLASSIFIED BUSINESS DIRECTORY

BAGS.

White Bag Co.
West Jersey Bag Co.

BALL MILLS.

Alsing, J. R., Eng. Co.
Power & Mining Mch. Co.

BELTING.

Chicago Belting Co.
Gandy Belting Co.

BOLTING SCREENS.

Jeffrey Mfg. Co.

BUCKETS, DUMPING AND GRAB.

Atlas Car Mfg. Co.
Brown Hoist & Mac. Co.

CEMENT BRICK MCHY.

Bartlett, S. O., & Snow Co.
Martin-Henry Brick Machine Co.

CEMENT EXHIBITIONS.

Cement Products Exhibition Co.

CEMENT HYDRAULIC.

Carolina Portland Cement Co.
Chickamauga Cement Co.
Fowler & Pay.
Utica Hydraulic Cement Co.

CEMENT MCHY.

Alsing, J. R., Eng. Co.
Bartlett, S. O., & Snow Co.
Jeffrey Mfg. Co.
Kent Mill Co.
Power & Mining Mach. Co.
Ruggles-Coles Eng. Co.
Smith, F. L., & Co.

CEMENT, PORTLAND.

American Cement Co.
Alma Portland Cement Co.
Alpha Portland Cement Co.
Ash Grove Lime & Portland Cement Co.
Atlas Portland Cement Co.
Best Bros. Keen Cement Co.
Bonner Portland Cement Co.
Buckeye Portland Cement Co.
Carolina Portland Cement Co.
Castalia Portland Cement Co.
Chicago Portland Cement Co.
Dexter Portland Cement Co.
Edison Portland Cement Co.
French, Samuel H., Co.
Goetz, Charles W., Lime & Cement Co.
Hartmann, Wm. G., Cement Co.
Fredonia Portland Cement Co.
Ironton Portland Cement Co.
Kosmos Portland Cement Co.
Lehigh Portland Cement Co.
Marquette Portland Cement Co.
Meacham & Wright Co.
Newaygo Portland Cement Co.
Northampton Portland Cement Co.
Maryland Portland Cement Co.
Northwestern States Portland Cement Co.
Omega Portland Cement Co.
Penn Allen Portland Cement Co.
Pennsylvania Portland Cement Co.
Peninsular Portland Cement Co.
Sandusky Portland Cement Co.
St. Louis Portland Cement Co.
Superior Portland Cement Co.
Universal Portland Cement Co.
United Kansas Portland Cement Co.
Warner, Chas., Co.
Wolverine Portland Cement Co.

CEMENT PIPE MOLDING PRESS.

Smith, F. L., & Co.

CLAY PRODUCTS.

Buckeye Fire-Clay Co.

CLAYWORKING MCHY.

Bartlett, S. O., & Snow Co.
Cummer, F. D., & Son Co.

CONCRETE BLOCK MCHY.

Anchor Concrete Stone Co.
Cement Machy. Co.
Century Cement Mch. Co.
Concrete Stone & Sand Co.
Iowa Concrete Machy. Co.
Perfection Block Machy. Co.
Pettyjohn, The, Co.
Simpson Cement Mold Co.

CONCRETE MIXERS.

Iowa Concrete Machy. Co.
Kent Mach. Co.
Svenson-Shuman Mach. Co.

CONCRETE BEADS.

Carolina Portland Cement Co.

COLORINGS, BRICK AND MORTAR.

Chattanooga Paint Co.
Clinton Metallic Paint Co.
North Jersey Paint Co.
Ricketson Mineral Paint Works.
Williams, C. K., & Co.

CONVEYORS.

Austin Mfg. Co.
Bartlett, S. O., & Snow Co.
Caldwell, H. W., & Sons Co.
Ersham, J. B., & Sons Mfg. Co.
Jeffrey Mfg. Co.
Power & Mining Machy. Co.

CRUSHERS.

Alsing, J. R., Eng. Co.
Austin Mfg. Co.
Bacon, Earl C.
Bartlett, S. O., Snow & Co.
Butterworth & Lowe.
Chrome Steel Wks.
Des Moines Mfg. & Supply Co.
Ersham, J. B., & Sons Mfg. Co.
Jeffrey Mfg. Co., The.
Kent Mill Co.
Marsh Co.
Martin, Henry.
Power & Mining Machy. Co.
Sturtevant Mill Co.
Taylor Iron & Steel Co.
Williams Contractors Supply Co.
Williams Pat. Crusher & Pulverizer Co.
Universal Stone Crusher Co.

CUT GEARS.

Nuttall, R. D., Co.

DRILLS.

Howell Mining Tool Co.
Scranton Electric Const. Co.
Williams Contractors' Supply Co.

DRYERS.

Alsing, J. R., Eng. Co.
American Process Co.
Bartlett, S. O., & Snow Co.
Cummer, F. D., & Son Co.
Ruggles-Coles Eng. Co.

DRYER CARS.

Power Mining & Mch. Co.

DUMP CARS.

Atlas Car Mfg. Co.
Austin Mfg. Co.
Continental Car & Equip. Co.
Power & Mining Machy. Co.
Sackett Screen & Chute Co.

DYNAMITE AND POWDER.

Aetna Powder Co.
Burton Powder Co.
DuPont Powder Co.
Illinois Powder Co.
Independent Powder Co.

ENGINEERS.

Bacon, Earl C., Co.
Fuller Eng. Co.
Speckman, Henry, Eng. Co.

EXPANSION BOLTS.

Farrington, H.

FIBRE MCHY.

Ohio Fibre Mch. Co.
Shuart-Fuller Mfg. Co.

FIRE BRICK.

Ashland Fire Brick Co.
Buckeye Fire-Clay Co.
Carolina Portland Cement Co.
Laclede-Christy Clay Products Co.
Louisville Fire Brick Co.
Mitchell Clay Mfg. Co.
Union Mining Co.

FLOOR VENTILATOR.

Zimmerman, C. E.

FUSES.

Aetna Powder Co.

GAS AND GASOLINE ENGINES.

Power & Mining & Mch. Co.

GAS PRODUCERS.

Duffs Patent Co.
Power & Mining Mch. Co.

GYPSUM.

American Independent Gypsum Co.
Carolina Portland Cement Co.
Empire Gypsum Co.
Iowa Hard Plaster Co.
Plymouth Gypsum Co.
Niagara Gypsum Co.
U. S. Gypsum Co.

GYPSUM MCHY.

Bartlett, S. O., & Snow Co.
Butterworth & Lowe.
Cummer, F. D., & Son Co.
Ersham, J. B., & Sons Mfg. Co.

HARDENING CYLINDERS.

Alsing, J. R., Eng. Co.
Clyde Iron Works.
Kritzer, The, Co.

HYDRATING CYLINDERS.

Alsing, J. R., Eng. Co.
Clyde Iron Works.

HYDRATING MCHY.

Clyde Iron Works.
Kritzer Co., The.

LIME.

Ashgrove Lime & P. C. Co.
Caroline P. C. Co.
Cleveland Bldrs. Supply Co.
Farman Cheshire Lime Co.
Fowler & Pay.
Goetz, S. W., Lime & Cement Co.
Ohio & Western Lime Co., The.
Kelly Island Lime Trans. Co.
Marble Head Lime Co.
Mitchell Lime Co.
New Jersey Lime Co.
Pierce City Lime Co.

LIME, HYDRATED.

Ash Grove Lime & Portland Cement Co.
Ohio & Western Lime Co., The.
Marble Head Lime Co.
Warner, Chas., Co.

LOCOMOTIVES.

Davenport Locomotive Wks.

METAL LATH.

Carolina Portland Cement Co.

MIXERS.

Charles, J. M.
Marsh Co.
Williams Contractors' Supply Co.

PLASTER MCHY.

Bartlett, S. O., & Snow.
Butterworth & Lowe.
Cummer, F. D., & Son Co.
Dunning, W. D.
Empire Gypsum Co.
Ersham, J. B., & Sons Mfg. Co.
Williams Pat. Crusher & Pulverizer Co.

PLASTER.

American Independent Gypsum Co.
Best Bros. Keen Cement.
Carolina Portland Cement Co.
Eastwick Plaster Co.
Iowa Hard Plaster Co.
King, J. B., & Co.
Lycoming Calcining Co.
Plymouth Gypsum Co., The.
Rader, Gustave, Co.
Sackett Plaster Board Co.
U. S. Gypsum Co.
Wheeling Wall Plaster Co.

PNEUMATIC TOOLS.

Howell Mining Tool Co.

PULVERIZERS.

Bartlett, S. O., & Snow Co.
Alsing, J. R., Eng. Co.
Kent Mill Co.
Lehigh Car, Wheel & Axle Wks.
Raymond Bros. Co., The.
Sturtevant Mill Co.
Williams Pat. Pulverizer Co.

RAILROADS.

Illinois Central R. R.

RAILROAD MATERIAL.

Atlas Car & Mfg. Co.

REINFORCED CONSTRUCTION.

Mankelick, Chas.

ROOFING MATERIAL.

Barret Mfg. Co.
Carolina Portland Cement Co.

SAND.

Ballou's White Sand Co.
Illinois Valley Sand Co.
Ottawa Silica Sand Co.

SAND-LIME BRICK MCHY.

American Clay Wking. Mch. Co.
American Sand Stone Brick Co.
Cleveland Brick Mch. Co.

SAND-LIME ENGINEER.

James F. Hobart.

SCREENS.

Bartlett, S. O., & Snow Co.
Butterworth & Lowe.
Des Moines Mfg. & Supply Co.
Ersham, J. B., & Sons Mfg. Co.
Jeffrey Mfg. Co.
Johnson & Chapman Co.
Power & Mining Mch. Co.
Sackett Screen Co.
Tyler, W. S., Co.

SEWER PIPES.

Buckeye Fire-Brick Co.

SOAP STONE FINISH.

American Soap Stone Finish Co.

STEAM SHOVELS.

The Bucyrus Co.
The Vulcan Steam Shovel Co.

STUCCO RETARDER.

Chemical Stucco Retarder Co.
Ohio-Binns Retarder Co.
Pennsylvania Retarder Co.

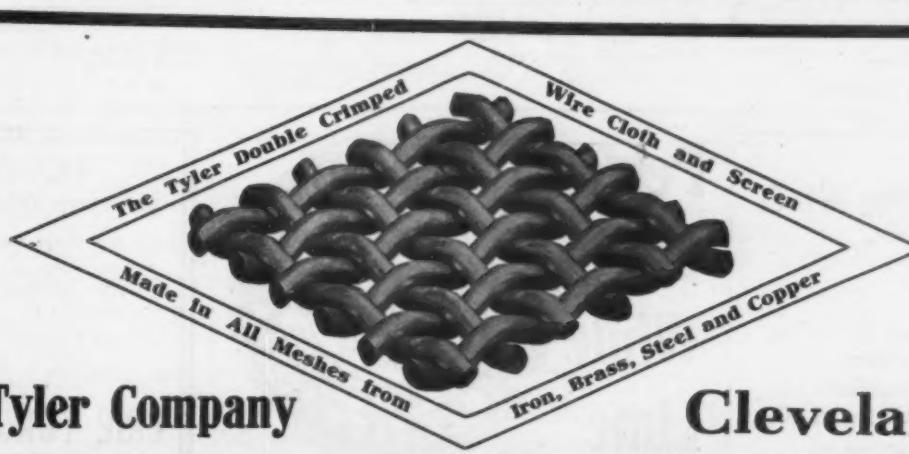
TUBE MILLS.

Alsing, J. R., Eng. Co.
Power & Mining Mch. Co.

WATER PROOFING.

Barret Mfg. Co.
Carolina Portland Cement Co.
Chickamauga Cement Co.
Marblehead Lime Co.
Maumee Chemical Co.

The Tyler Screen is especially recommended for screening stone, sand, gravel, cement, lime, etc. It will stand extraordinary wear.



If you wish some clear, concise data on screens and their uses, send for catalogue "R. P." today.

ROCK PRODUCTS



The Century Cement Machine Company, Rochester, N. Y., are placing on the market a new mixer, known as the "Hercules Continuous Concrete Mixer." This machine is a concrete drum mixer especially designed for accurately proportioning and mixing the materials used in concrete. The machine consists of three hoppers—one for cement and two for coarser materials. Either of the coarse material hoppers can be used for crushed stone or sand, as desired, making it unnecessary to always arrange to have certain materials on one particular side of the machine. The hoppers are set low so as to allow for shoveling direct from the ground, no platforms being required.

The fact that the "Hercules" is a drum mixer has made it a favorite with contractors generally. There are no paddles to wear or break, and a perfect mix is assured at all times. The materials, after being forced into the drum by the plungers in the exact proportions required, are carried upwards and forward by means of stationary deflectors. There is a continual flow from the highest to the lowest point, but at no time are the materials carried to the top and deposited at the bottom in a solid mass.

The end of the mixing drum is equipped with a special dumping device which allows for discharging directly into wheelbarrows or at the ground, as desired. Too much praise cannot be given the "Hercules" mixer, and a block plant without one is not complete.

In a recent industrial parade, in Rochester, N. Y., one of the mixers was shown in operation. The float attracted considerable attention. A. T. Bradley is shown in the front seat in the illustration shown on this page.

The Jaite Company, of Boston, Summit County, Ohio, manufacturers of paper bags, are having, so they assure us, phenomenal success in producing sacks that are giving satisfaction wherever sold. They state that they are receiving many complimentary letters in regard to strength, quality and printing and if they continue to grow as they have in the last six months, they will, in a very short time, be one of the largest manufacturing plants of their kind in the country.

The officers of the Jaite Company, who are expert paper makers, are giving the business their personal attention, and they claim that this accounts for the superiority of their products.

They inform us that they are now increasing their

plant to provide for the additional business coming to them.

The Abbé Engineering Company, whose offices are at 220 Broadway, New York City, have issued an exceedingly handsome illustrated catalog, under the caption, "Pulverizers Our Specialty," and designated as Catalogue No. 4. They state in submitting this pamphlet to the public and to the manufacturers in particular that they show only such machines as they have in actual operation and which by experience they have learned are the proper ones for use in the different trades whose patronage they desire to obtain.



THE HERCULES CONCRETE MIXER IN THE INDUSTRIAL PARADE, ROCHESTER, N. Y.

CLASSIFIED ADVERTISEMENTS

Advertisements will be inserted in this section at the following rates:
 For one insertion 25 cents a line
 For two insertions 45 cents a line
 For three insertions 60 cents a line
 Eight words of ordinary length make one line.
 Heading counts as two lines.
 No display except the headings can be admitted.
 Remittances should accompany the order. No extra charges for copies of paper containing the advertisement.

EMPLOYEES WANTED

AGENTS WANTED.
 The country is full of block machines and every owner is a prospect for our specialty. A bonanza as a side line. Address BOX 8 care ROCK PRODUCTS.

WANTED.
 All wall plaster salesmen, thoroughly acquainted in the Pennsylvania and New York markets. One who can give results. Best of references. Address X. Y., care ROCK PRODUCTS.

MACHINERY FOR SALE

FOR SALE.
 Two new Blake pattern rock crushers.
 24"x16".
 Address BRICK, care of ROCK PRODUCTS.

**THE
Henry Martin Brick Machine Mfg. Co.
LANCASTER, PENNA.**

Manufacturers of
 Clay Working Appliances
 Cement Brick Machinery
 Rock Crushing Machinery
 Sand Grinding Machinery
 Sand Dryers, Brick Dryers, Etc.
 Send for Plans and Illustrated Catalogue

FOR SALE
 In first-class condition, one No. 61 white brick press, capacity 2,000 per hour; two 34 by 6½ iron steam cylinders; also trucks and trackage used at sand and lime brick plant.

J. K. BOWEN,
 Allentown, Pa.

GOOD AS NEW.

Wanted to sell, one Stedman disintegrator, No. 40, also one bolter, capacity ten tons per hour, with elevator, shafting, etc. Used about one week. Apply to James S. Duncan, Toledo, Ohio, or B. H. TAYLOR, Carnegie Bldg., Pittsburgh, Pa.

FOR SALE.

20-ton overhead traveler, 38-foot span; electric power or rope drive. 135 feet track; strictly first-class. Also 20-ton stiff leg stone yard and quarry derrick, Scoville make. 50-foot boom, double engines on mast, revolves full circle either direction. Fine condition.

WILLIS SHAW, 171 La Salle St., Chicago.

CRUSHER FOR SALE.

Gates No. 4 Gyrotary, in fine condition. Cheap.
 R. P. BOX 2, Sta. A., Cincinnati, O.

FOR SALE.

Lidgerwood, 30 H. P., No. 72 bolst.	\$ 750
Flory, 12 H. P. holst, D. C., D. D.	500
Little Giant 1 yd. traction shovel.	2,650
Hayward ¾ yd. orange peel bucket.	375
Hayward 1 ½ yd. orange peel bucket.	475
New 1 yd. clam shell bucket.	375
Vulcan 8-ton, 24" gauge locomotive.	1,250
60 Western 24" gauge, 1 ¼ yd. cars at.	30
45-ton Bucyrus, 3 sets engines.	3,500
Road rollers, stone crushers, concrete mixers, etc.	

We can save you money.

WILLIS SHAW CO.,
 Chicago, Ill.

**Peirce
City
White
Lime**



Tell 'em you saw it in ROCK PRODUCTS.

ENGINES AND BOILERS FOR SALE.

Engines—Corliss, Automatic and Throttling, all sizes from 1 to 500 H. P.

Boilers—Horizontal, Portable and Vertical, all sizes from 1 to 200 H. P.

Pumps, Heaters, Tanks, Sawmill and General Machinery.

Write for our prices on your requirements.

THE RANDLE MACHINERY CO.,
 1745 Powers St., Cincinnati, O.

SECOND HAND MACHINERY.

2 Griffin Mills with new extra shafts, shoes and rings.

1 150 H. P. automatic slide valve engine.

1 100 H. P. Stirling boiler.

1 H. P. Galway boiler.

2,500 feet 60-lb. T rails.

All at Banner Mill, Sellersburg, Ind. Inquire

BANNER CEMENT CO.,

1105 Masonic Temple, Chicago.

EMPLOYMENT WANTED

POSITION WANTED

by two young men who are at present employed and who will take the management of any Sand-Lime Brick or Concrete Block Business "that is located right" and guarantee success. Are connected with one of the most successful plants of this description in this country.

Address J. T. care ROCK PRODUCTS.

A SUCCESSFUL MANAGER

in all branches of concrete work will be open for appointment January 1. Address

Q. R. S., care ROCK PRODUCTS.

SECOND-HAND ENGINES DERRICKS and BOILER

One Center Crank Automatic Side Valve Horizontal, 30 H. P.

One Stationary, 40 H. P.

One Center Crank, 80 H. P. (all in first-class condition).

Three 15-ton Derricks complete, without boiler (practically new).

One 8-ton Derrick complete, without boiler (practically new).

One 72x18 Stationary boiler complete, 100 lb. pressure (practically new).

ERIE FORGE CO., Erie, Pa.

MACHINERY WANTED**WANTED.**

Second roll jaw crusher. Give full particulars. Address BALFOUR QUARRY CO., Salisbury, N. C.

BUSINESS OPPORTUNITIES**FOR SALE.**

112 acres of gravel land.
Address J. H. WALTER, Box 78, So. Elgin, Ill.

LIME KILNS

for sale at Topeka, Kans. Fine business opportunity. No other kilns within hundred miles. Write at once to HALE RITCHIE, 1118 Madison St., Topeka, Kans.

START A BUSINESS.

For five dollars I will give you the complete working details and formulae for making and laying sanitary floor, tiling, wainscot and plastic raised work. Process guaranteed to be the best. Address P. 11, care ROCK PRODUCTS.

PLANT FOR SALE**SILICA SAND QUARRY**

for sale, producing best quality furnace sand, steel molding and glass sand. Large crushing and drying capacity. Plant complete. Near largest markets. A bargain. Address "SILICA," care ROCK PRODUCTS.

WASHED AND SCREENED

WHITE Silica SAND

Ballou's White Sand Co.

Box 8, Millington, Illinois

Just the right thing for molding artistic concrete work of all kinds. Pure silica as white as snow that will produce a white product for ornamental exterior and interior concrete finish. The perfectly practical facing material that has never been obtainable before. Quantity unlimited, price reasonable.

SHIPPING FACILITIES UNSURPASSED

Address the

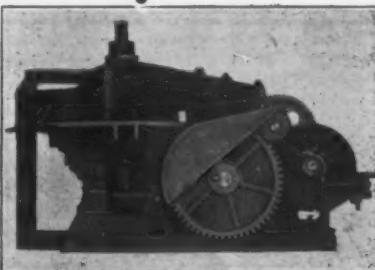
UNIVERSAL STONE CRUSHER CO.

Cedar Rapids, Iowa.

WANTED—

you to know THE VELTEN UNIVERSAL CRUSHER is the only machine which will reduce the hardest ROCK and GRAVEL, instantaneously, to any fineness according to your wishes. It can be adjusted without stopping your machinery; is very simple in construction; less power and less repairs are required for maintenance expense, and the least cost of any machine in the market. Prices range from \$30 up. Investigate and you will be pleased.

Sand Lime Brick MACHINERY

**The Perfection Press**

is a result producer. We have the testimonials that prove this press can turn out more perfect sand lime brick than any other press on the market.

The Cleveland Brick Machinery Co.
WICKLIFFE, OHIO

S A N D

HAVING completed our new plant we are now prepared to ship cleaned and dried sand especially adapted for foundry use and concrete work.

No order too large for us.

Illinois Valley Sand Co. OTTAWA, ILL.

Index to Advertisements

Aetna Powder Co. 11	Century Cement Mach. Co. 53	Hobart, James F. 18	Maryland P. C. Co. 33	Sackett Plaster Board Co. 55
Alma Portland Cement Co. 1	Charles, J. M. 5	Howell Mining Drill Co. 66	Maumee Chemical Co. 36	Sackett Screen & Chute Co. 57
Alpha Portland Cement Co. 2	Chattanooga Paint Co. 9	Illinois Cent. Ry. 17	Meacham & Wright. 1	St. Louis Portland Cement Co. 2
Alising, J. R., Eng. Co. 59	Chemical Stucco Retarder Co. 62	Ill. Powder Co. 1	Mitchell Clay Mfg. Co. 12	Sandusky P. C. Co. 55
American Cement Co. 68	Chicago Belting Co. 1	Independent Powder Co. 10	Mitchell Lime Co. 12	Scranton Elect. Comt. Co. 66
American Clay Working Ma- chinery Co. 67	Chicago Portland Cement Co. 2	Iowa Concrete Mch. Co. 17	Smart-Fuller Mfg. Co. 57	
American Ind. Gyp. Co. 63	Chickamauga Cement Co. 2	Iowa Hard Plaster Co. 61	Simpson Cement Mold. Co. 53	
American Process Co. 18	Chrome Steel Wks. 66	Ironton Portland Cement Co. 5	Smith, F. L., & Co. 59	
American Sandstone Brick Co. 66	Cleveland Brick Machinery Co. 51	Jaite Bag Co. 15	Spackman, Henry, Mfg. Co. 18	
American Soap Stone Finish Co. 8	Cleveland Builders Supply Co. 13	Jeffrey Mfg. Co. 67	Sturtevant Mill Co. 54	
Anchor Concrete Stone Co. 52	Clinton Metallic Paint Co. 18	Johnston & Chapman Co. 59	Superior Portland Cement Co. 4	
Ash Grove Lime & P. C. Co. 36	Clyde Iron Works. 14	North Jersey Paint Co. 9	Swenson-Shuman Machine Co. 55	
Ashland Fire Brick Co. 18	Concrete Stone & S. Co. 54	Northwestern States Port. C. Co. 33	Taylor Iron & Steel Co. 6	
Atlas Car Mfg. Co. 68	Continental Car & Equip. Co. 8	Nuttall, R. D., Co. 10	Tyler, W. S., Co. 49	
Atlas Portland Cement Co. 68	Cummer & Co., F. D. 18-61	Kelley Island Lime & Trans. Co. 13	Union Mining Co. 1	
Austin Mfg. Co. 58	Davenport Loco. Works. 17	Kent Machine Co. 55	United Kansas Port. C. Co. 6	
Bacon, Earle C. 57	Des Moines Mfg. & Sup. Co. 57	Kent Mill Co. 52	United States Gypsum Co. 64	
Ballou's White Sand Co. 51	Dexter Portland Cement. 1	King, J. B., & Co. 61	Universal Portland Cement Co. 33	
Barrett Mfg. Co. 9	Duff Patents Co. 15	Kosmos Portland Cement. 7	Universal Stone Crusher Co. 59	
Bartlett, C. O., & Snow Co., The. 10	Erie Forge Co. 50	Kritzer Company, The. 35	Utica Hydraulic Cement Co. 34	
Best Bros. Keene's Cement Co. 61	Ersham, J. B., & Sons Mfg. Co. 56	Laclede-Christy Clay Products Co. 12	Vulcan Steam Shovel Co. 1	
Bonner Portland Cement Co. 33	Farnam Cheshire Lime Co. 8	Lehigh Car & Axle Co. 8	Warner, Charles, Co. 5	
Brown Holst & Mac. Co. 58	Farrington, H. 18	Lehigh Portland Cement Co. 2	West Jersey Bag Co. 33	
Buckeye Fire Clay Co. 12	Fowler & Pay. 8	Louisville Fire Brick Co. 12	Williams, C. K., & Co. 18	
Bucyrus Co., The. 10	Fredonia Portland Cement Co. 2	Lycoming Calcining Co. 61	Williams Contractors' Supply Co. 18	
Burton Powder Co. 11	French, Samuel H., & Co. 1	Mankedick, Chas. 54	Williams Patent Crusher & Pulverizer Co. 60	
Butterworth & Lowe. 58	Fuller Eng. Co. 17	Marblehead Lime Co. 13	Wolverine Portland Cement Co. 4	
Caldwell, H. W., & Sons Co. 17	Gandy Belting Co., The. 66	Marquette Cement Mfg. Co. 1	Wood & Co., R. D. 10	
Carolina Portland Cement Co. 23	Goetz, C. W., Lime & Cement Co. 8	Marsh, Geo. C. 57	Zimmerman, C. E. 62	
Cement Products Exhibition Co. 16		Martin, Henry. 50	Ruggles-Coles Eng. Co., N. Y. 18	
Cement Tile Machinery Co. 52				

Tell 'em you saw it in **ROCK PRODUCTS**.

THE KENT PULVERIZER

Takes one inch feed. Grinds to any fineness from 10 to 200 mesh.

GRINDS PER HOUR WITH LESS THAN 25 H. P.

CEMENT CLINKER,	40 bbls.	to 98%	20 Mesh.
CEMENT CLINKER,	12 "	" 96% 100	"
LIMESTONE,	2½ tons	to 98% 200	"
LIME,	4 "	" " 100	"
ROSENDALE CEMENT,	43 bbls.	" 90% 50	"
QUARTZ TRAP-ROCK,	4 tons	" " 40	"

You can easily figure from this what a Kent Mill would save for you.

W. J. BELL, Esq. Supt.

NEWAYGO PORTLAND CEMENT CO.,

Newaygo, Mich.

Says:—Four KENT MILLS are driven by one 75 H.P. motor

For Catalogs and Information, Address

KENT MILL CO.

170 Broadway,

NEW YORK.

“The Only Way”

TO MAKE FOUR THOUSAND 4, 5, 6, 7, 8, 10,
12, 14, 15 OR 16 INCH CEMENT DRAIN TILE
IN TEN HOURS IS TO INSTALL A

SCHENK CEMENT TILE MACHINE

“OVER SIXTY MACHINES IN OPERATION”

Ask The Man Who Has One

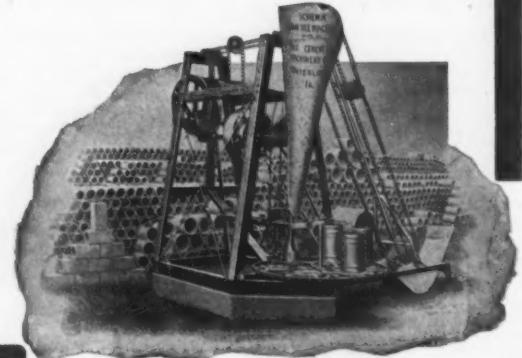
—OR—

The Cement Tile Machinery Co.

74 RATH ST.,

WATERLOO, IA.

THE
LARGEST
CONCRETE
MACHINERY
PLANT IN
THE WORLD

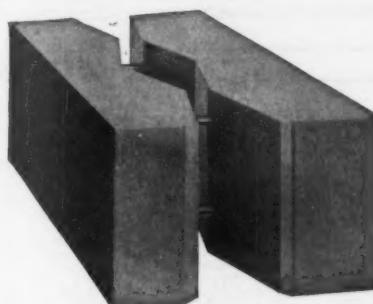


Tell 'em you saw it in ROCK PRODUCTS.

THE ANCHOR

Continuous Air Space Block Machine

Makes Blocks with a real air space that we guarantee Frost and Moisture Proof



Standard Anchor Machines make blocks that lay in the wall 8 in. by 24 in., and any width from 8 in. to 12 in.

Anchor Jr. Machines make blocks that lay in the wall 8 in. by 16 in., and any width from 8 in. to 12 in.

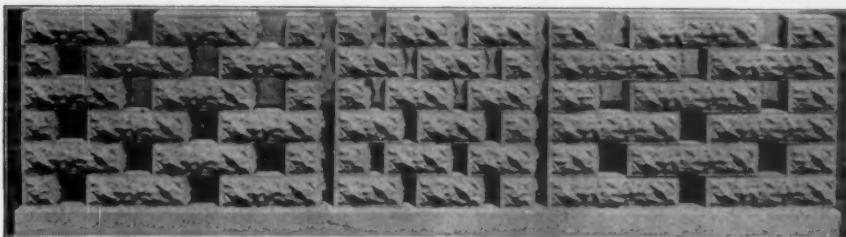
ANCHOR CONCRETE STONE COMPANY

Write for new 1908 catalogue
and special low prices.

Rock Rapids, Iowa

THE SIMPSON OUTFIT FOR LATTICE PORCH FRONTS

Produces blocks 4 in. high; 4, 6, 8 or 12 in. wide; and 4, 6, 8, 12 or 16 in. long. Any or all rock faces; any or all plain faces. Easy to make as mud pies, and they produce BEAUTIFUL EFFECTS. The blocks look to be exactly what they are—made for this particular purpose. This outfit is one of the best additions to our very extensive line of molds for PORCH WORK. The first announcement of it was made last month (July) and already a large number are in use scattered from New Jersey to Utah. The price is FIFTEEN DOLLARS, delivered at your station. Meanwhile we still have our handsome new CONCRETE PORCH BOOK at your service, showing 30 different designs of Porch Columns and 24 of the hundreds of fine verandas erected from them. In writing for this do not fail to send your printed card or letter head, so we may know what you are doing. If you are not in concrete business send 10c. The book is worth ten times that amount to any one interested in residences either as owner, architect or builder.



The Simpson Cement Mold Co.

498 North High Street
COLUMBUS, OHIO



Send for Catalogue

CENTURY CEMENT MACHINE COMPANY, 179 Main Street West Rochester, New York

HERCULES

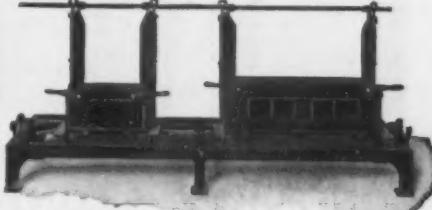
CONCRETE MIXERS

are compactly built and easy to move. Construction the best—all iron and steel, highly finished. Materials handled but once direct from ground to hopper. The Force Feed insures accuracy in proportioning; the Revolving Drum, thoroughness in mixing. Changes in proportions made instantly. There are no expensive delays, because you have

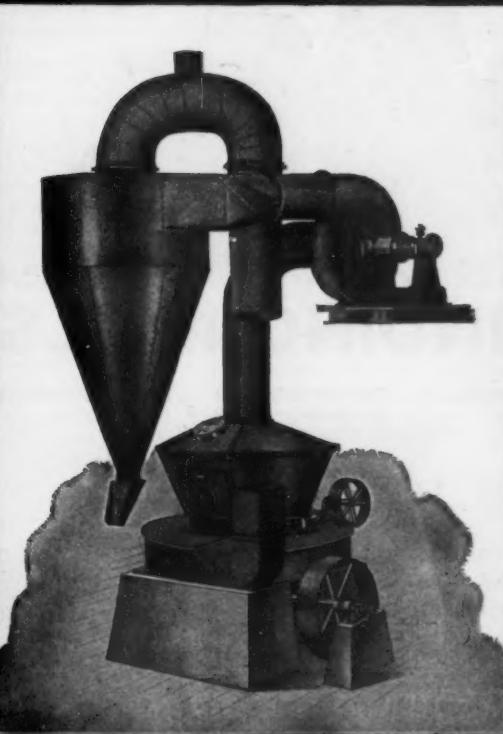
NO SPRINGS TO BREAK
BELTS TO STRETCH
WORM TO CLOG
PADDLES TO WEAR

HERCULES CONCRETE BLOCK MACHINES

Have given results for years. They are unlimited, and allow for producing all sizes and designs of building stone from 3 inches to 6 feet, long.



HERCULES CONCRETE BLOCK MACHINE



SAVING MONEY IN YOUR GRINDING ROOM

Is not all that



THE RAYMOND SYSTEM OF AIR SEPARATION WILL DO FOR YOU

In every case where this system has been installed it has proven itself an economy not only in the actual grinding and separating of materials reduced to powder but in saving money or improving the work of other departments of the factory. The reading of our book may surprise you as to what we can do for you.

That you have no fault to find with your present methods is no proof that there is not a better way. It will cost you nothing to read the book. Just ask us for it. The reading of it may mean thousands of dollars in your pocket.

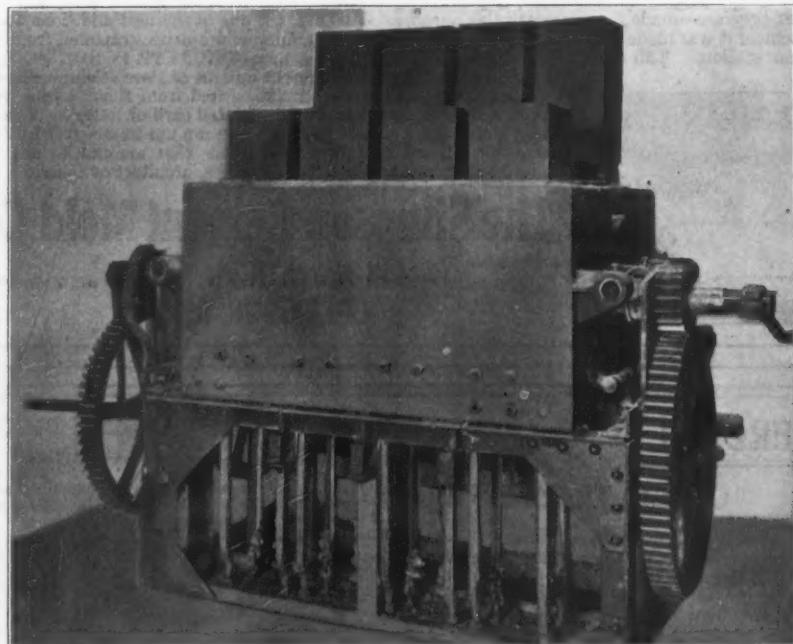
USE THE COUPON

**RAYMOND BROTHERS IMPACT
PULVERIZER CO.,
141 Laflin St., CHICAGO**

SIGN THIS COUPON, TEAR OFF AND MAIL

Please send my book
"MAKING AIR MAKE MONEY"
Name _____
Firm _____
Address _____

FIREPROOF STRUCTURAL TILE OF CONCRETE



400 Tiles per Day With Three Men.

CONCRETE STONE AND SAND CO.

A. A. PAULY, INVENTOR.

Eminent Engineers and Architects indorse the Pauly System of Concrete Tiles and Pipes. Here is where dealers can get "all the profit."

EXCLUSIVE TERRITORY SECURED TO INVESTORS.

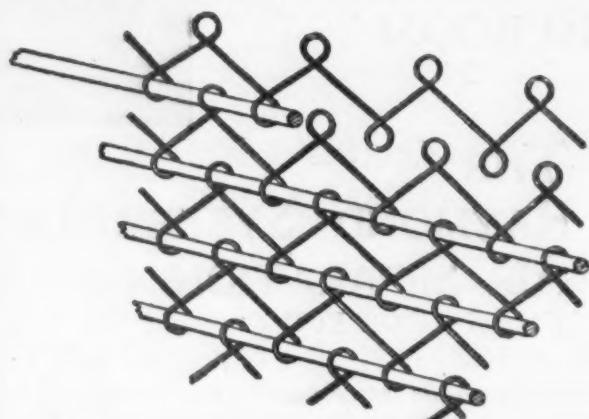
Responsible parties investing in a plant for the manufacture of structural tile and sewer pipe by the Pauly patented system are fully protected in their immediate market with exclusive control of the machinery. Machines are all furnished upon a lease contract which is as strong as an insurance policy. Complete demonstration with every machine installed, using the local material that it is to work with. Positive guarantee with every machine installed and every equipment or no trade. Let us demonstrate with a sample of your aggregate material free.

The Merit of the Material Speaks for Itself.

If you own a sand supply, crusher refuse or furnace slag is handy—investigate for factory propositions.

Youngstown, Ohio

Mankedick's Reinforced Concrete Structure

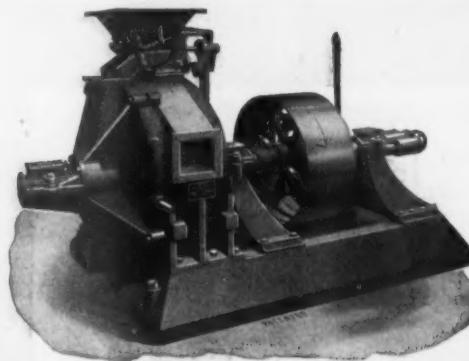


Adaptable to all possible forms of construction, such as Arches, Columns, Silos, Floors or Walls. Uniform strength in every position. Any desired size of rods, wire or mesh may be used that may be necessary for the work required.

Rapid, Cheap and Simple Construction

This Patent is for sale. If not sold soon I will make arrangements to have the material manufactured for the market.

CHAS. MANKEDICK, Patentee,
P. O. Box 397. **SULLIVAN, INDIANA**



GRINDING MILLS

Vertical and Horizontal Emery Mills Ball and Tube Mills Hammer Pulverizers
Pan Mills Disintegrators
Huntington, Chilian and Stamp Mills

10 KINDS

Select the Grinder best suited to your needs. No one Mill can do all work equally well.

Our line is large enough for proper selection.

Get Our Catalogue

STURTEVANT MILL CO.

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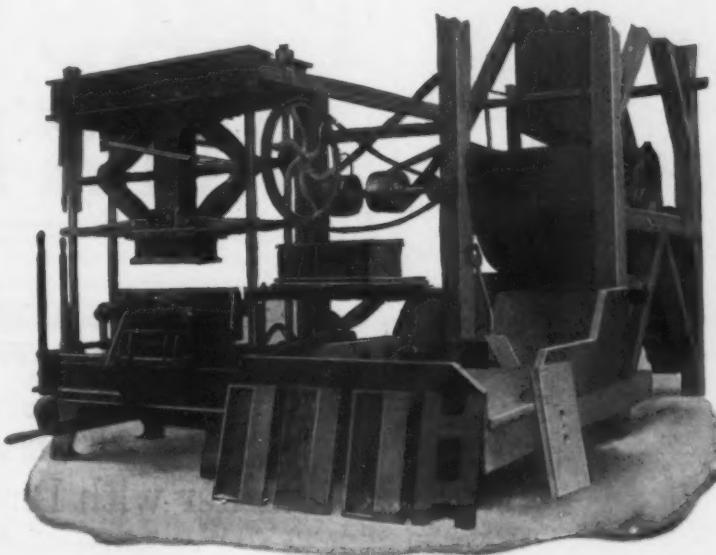
PERFECTION AT LAST ATTAINED IN THE CONCRETE BLOCK INDUSTRY

THE PERFECTION POWER BLOCK MACHINE is the only Power Block Machine on the market, making a Hollow Concrete Building Block under Heavy Pressure and at Great Speed.

Machines have been in constant use since July 1st, 1905, with practically no expense for repairs.

The machine handles sand, gravel, crushed rock, slag and coloring materials perfectly.

All materials accurately measured, thoroughly mixed and uniformly pressed under 200,000 pounds pressure.



Makes 8, 9 and 12x8x24 inch blocks in five faces, and fractional and angle blocks.

Machine can be arranged to make Two Piece and Faced Blocks if desired.

All machines delivered, set up and put in operation to show a guaranteed capacity of 60 blocks (12x8x24 inch) per hour with 5 men.

Blocks perfectly cured in 24 hours in Vapor Curing Kilns of our own design.

Full details, catalog, testimonials, etc., sent upon request.

THE PERFECTION BLOCK MACHINE CO.
KASOTA BUILDING :: MINNEAPOLIS, MINN.

"The Svenson is Easily the Simplest and Fastest Mixer Ever Built"

Quit wasting money and making bad concrete with that "batch" machine. Don't fuse and lose time with complicated mixers. Let us tell you about this simple, strong machine.

The Svenson Concrete Mixer

Has only five moving parts, all on one shaft. It keeps going and it keeps the men going.

We want to tell you our ideas on proper mixing, for the "Svenson" mixes dry, then wet—the only scientific way. And it proportions the mix positively, just the way you set it.

Send for Catalogue.

Svenson-Shuman Machine Co.,
602 Bessemer Bldg., PITTSBURGH, PA.



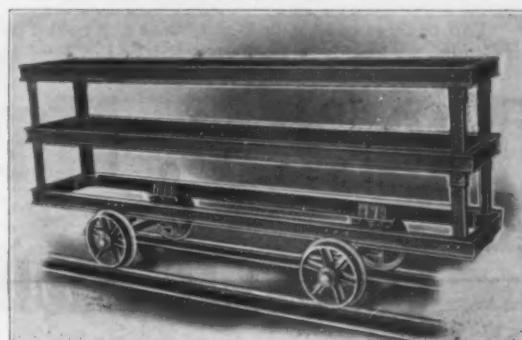
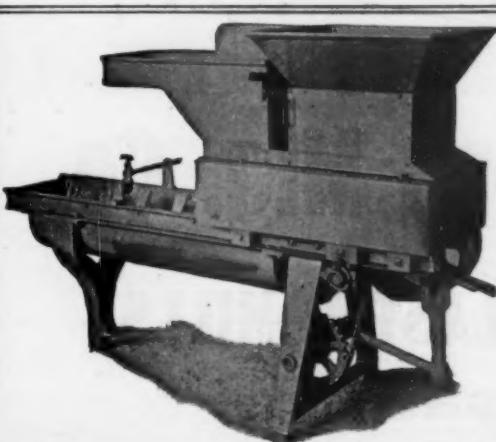
"KENT" CONTINUOUS MIXER

"The Mixer that measures and Mixes"

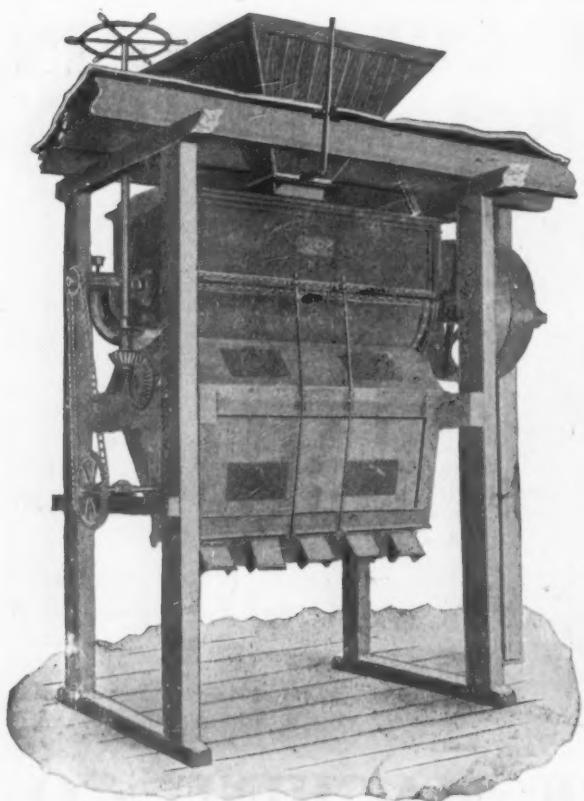
"You fill the Hopper, the Mixer does the rest"

Simple, reliable, economical, durable and moderate in price

Write for Catalogue and Prices to
The Kent Machine Co.
306 N. Water St., Kent, O.



The "KENT" Block Cars, Transfer Cars, etc.



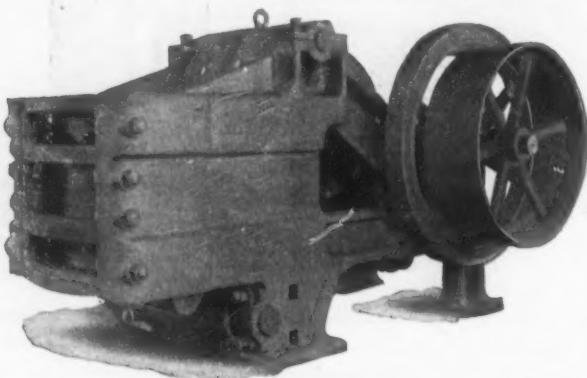
ENTERPRISE PLASTER MIXER

**NOISELESS,
DURABLE and EFFICIENT.**

For Mixing Hair Fibre, Wood Fibre and
Retarder with Dry Plastering
Materials.

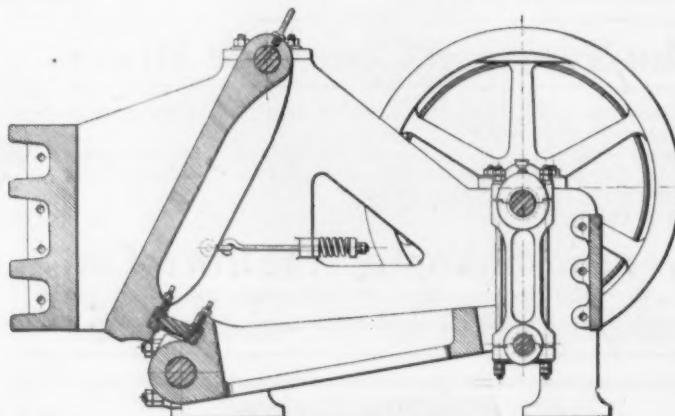
Calcining Kettles

Jaw and Rotary Crushers for Gypsum, Reels,
Vibratory Screens, Hair Pickers and Trans-
mission for applying power.



EHRSAM NO. 4 JAW CRUSHER.

This machine will handle large chunks and reduce from 30 to 40 tons of Gypsum per hour to 2½-inch maximum or smaller if wanted.



NO. 4 JAW CRUSHER, SHOWING SECTIONAL VIEW OF NIPPER
The jaw opening at inlet is 18x28 inches.

The J. B. Ehrsam & Sons Mfg. Co.,
BUILDERS OF
COMPLETE EQUIPMENTS FOR PLASTER MILLS
Enterprise, Kansas

FARREL ORE AND ROCK CRUSHER

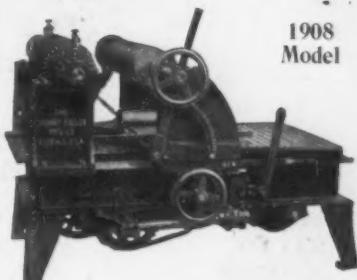
USED IN ALL PARTS OF THE WORLD—LARGE RECEIVING CAPACITY—SPECIALLY DESIGNED AND CONSTRUCTED FOR HARDEST KIND OF WORK
COMPLETE CRUSHING PLANTS OUR SPECIALTY

• SEND FOR CATALOGUE •

EARLE C. BACON, ENGINEER.

FARREL FOUNDRY & MACHINE CO. HAVEMEYER BUILDING, NEW YORK

The Shuart-Fuller Improved Fiber Machine



1908 Model

Has an automatic, proportional, increasing feed, which keeps grade of fiber uniform from start to finish, and holds machine to highest possible rate of production for the grade of fiber and number of saws. Does not begin with fiber and end with dust, nor fall off in rate of production on each log, from 40 to 80 per cent as do the ordinary non-increasing feed machines. Works logs up to 24x24 inches. No royalty string attached to sale. Pay no attention to misrepresentations of our competitors, but write for descriptive circular and terms to

The Shuart-Fuller Mfg. Co.

ELYRIA, OHIO

St. Louis, June 17, 1907.

Gentlemen:—We are just in receipt of advice from our New Mexico plant wherein they state that the Wood Fiber Machine recently shipped by you is doing all that we have asked of it and running very fine

ACME CEMENT PLASTER CO.

By Jas. R. Dougan, Secy.

GET THE BEST Finest Line of Gypsum Machinery

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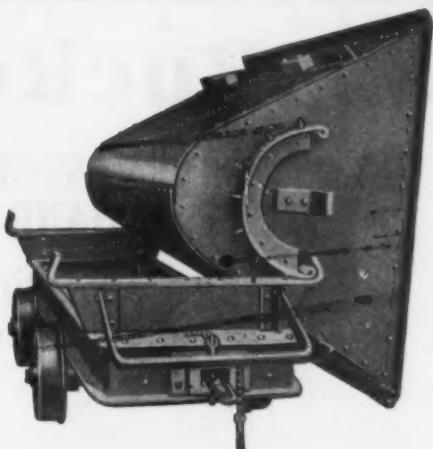
KETTLE CRUSHER NIPPERS

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MOGUL NIPPERS. OPEN DOOR POT CRUSHERS

Best Mills in the United States Have Them

DES MOINES MFG. & SUPPLY CO., Des Moines, Iowa, U. S. A.



Rocker Dump Car

For Quarries, Gravel Pits and Concrete Work

We manufacture CARS of all styles and sizes. Also ELEVATOR BUCKETS, ELEVATORS, REVOLVING SCREENS, HOISTS, SKIPS.

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I have for sale the following splendid bargains in crushing plants—and some others:

One No. 8 Gates Style "D" with No. 5 and elevator, screens, power plant, compressor, drills, etc. Very Complete.

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Two No. 3 Style "D" Gates Crushers, good as new, and many others. Write for full particulars, if interested.

One 17x24 Buchanan Jaw Crusher, with Manganese steel check and jaw plate. Absolutely good as new.

P. S.—I also have similar list Concrete Mixers, Steam Rollers, Steam Shovels and other Contractors' Equipment.

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AUSTIN GYRATORY CRUSHER

The World's Leading Rock and Ore Breaker

The Only Automatically Lubricated Gyratory Crusher

8 Sizes—Capacities 40 to 2000 Tons.

Simple Construction (^{Saving}
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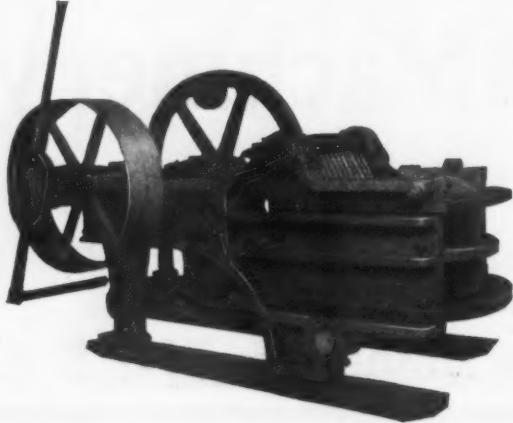
Correct Design (^{Saving}
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Result: EFFECTIVE, DURABLE AND MAXIMUM
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Plans and Specifications Submitted for Any Size Plant.

Write for Catalogue.

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CRUSHERS

for soft rocks, burnt lime, etc.

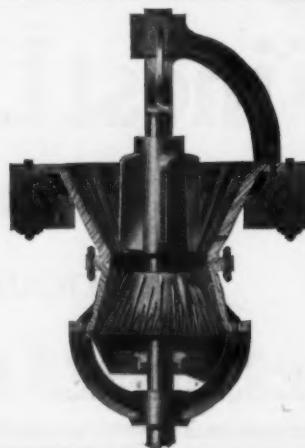
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We design modern Plaster Mills and make all necessary Machinery, including Kettles, Nippers, Crackers, Buhrs, Screens, Elevators, Shafting, etc.

SPECIAL CRUSHER-GRINDERS FOR LIME HYDRATORS

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WE CAN INTEREST YOU. WRITE US.

DON'T SHOVEL CRUSHED STONE BY HAND

If you have an ordinary derrick driven by a single drum engine you are equipped to operate our single line grab bucket. This bucket is simply hooked onto the crane hook as shown herewith.

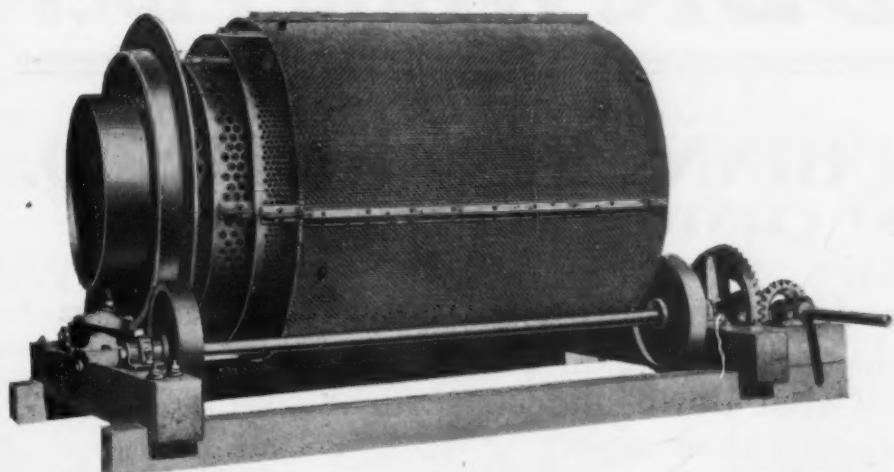
Our bucket on the derrick shown in the picture handled as high as 600 tons of crushed stone in ten hours.

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The advantages of these screens are described in detail in a circular which WE WILL MAIL TO ANY ADDRESS. Mr. John O'Laughlin, the inventor, has designed many notable improvements in rock-drilling, quarrying, crushing and screening machinery, and uses these improved screens in his own crushing plants, which others have declared "to be the most perfect in existence in every detail." The O'Laughlin Screen is an important factor in the most modern and perfect stone-crushing plant.

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on the market for wide-awake quarry-men and miners, who want to separate crushed granite, limestone or other minerals, gravel, sand, coal or coke. It will soon earn its cost in saving of repairs, and maintenance, and reduced power, and will do more and cleaner work than any other cylindrical screen of like area. No one can afford to keep old traps in use when the O'Laughlin installed

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will from the moment it starts give a better and larger product, and a big interest on your investment in continuous saving in cost of repairs, renewals, and power. For particulars, address:

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For the Pulverizing of Almost Any Material, Built in All Styles and Sizes. Best All Around Mill on the Market.



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**THE OHIO and BINNS RETARDER CO.
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Reliable Stucco Retarder=Strong=Uniform in Strength=

Duplicate power plant (electric and steam power) installed so as to preclude any possibility of shut down and consequent shut down of mixers who depend upon us for their supply of Retarder. We have a capacity large enough to supply every retarder user in the U. S. and Canada, and some to spare for Europe. Our mills are fireproof in every particular. Write us for prices and information.

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The Power and Mining Machinery Company have had years of experience in the designing and construction of cement making machinery and have always been leaders in this line of manufacture. The machinery as designed and built by them for this purpose has not been excelled by anyone.

Each proposition receives careful consideration and the machinery is built to best meet the existing conditions under which it is to operate.

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RAW MATERIAL GRINDERS

New Williams Universal



THE NEW WILLIAMS

FOR TUBE MILL FEED

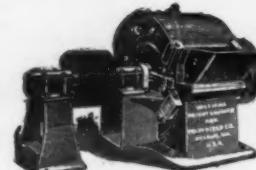
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95 PER CENT THROUGH 20 MESH
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WE ALSO GRIND
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FOR ROLLER MILL FEED
TAKES MATERIAL FROM
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CAPACITY 20 TONS HOUR
FINENESS $\frac{1}{8}$ IN., $\frac{1}{4}$ IN. AND $\frac{1}{2}$ IN.
HORSE POWER 40 TO 45
1,300 MILLS NOW IN USE



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The

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Seattle, Wash. 456 Empire Bldg. Los Angeles, Cal., 1531 Maines Ave.

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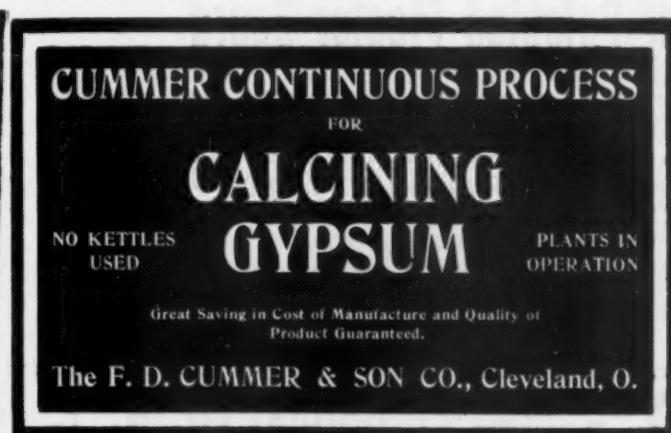
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Enlarged, Re-equipped, Better and Larger than ever. Capacity, 250 tons per day. First Stucco mill built at Garbutt. Now located on two R. R. systems. Shipping facilities unsurpassed. Ten wall plaster Companies now using our Stucco exclusively, under contract. Write for price.

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**PLAIN AND
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EQUAL IN QUALITY TO FOREIGN MAKES

MILLS AND QUARRIES:

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HARD BY NAME. HARD BY NATURE.
HARD TO BEAT. NOT HARD TO GET.

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SPECIAL MACHINERY AND FORMULAS

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The Ohio Fibre Machinery Co.

We furnish the latest improved FIBRE MACHINE, (fully patented) also FORMULAS, on a reasonable proposition. The strongest companies and oldest manufacturers are operating under my contracts.
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FOR PLASTERING WALLS AND CEILINGS**

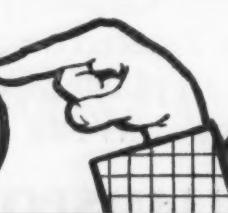
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Elastic in its nature, can be applied with 25 per cent less labor and has 12½ per cent more covering capacity than any other similar material

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MAKE TWO PROFITS!



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If you are selling plaster boards you are making one profit. Why not manufacture them and make both manufacturers' and dealers' profits? With

RADER'S PATENTED MOULDING TABLES

you can manufacture the best plaster boards on the market and at less cost than the largest manufacturers, enabling you to compete with any brand, both in quality and price.

PLASTER BOARDS

are rapidly displacing all kinds of lath, being fire and vermin proof, lower in price, more rapid and economical in construction, stronger and more durable.

RADER'S PATENTED PLASTER BOARDS

made only with Rader's Patented Moulding Tables are the most satisfactory now on the market. Cannot be broken as can others, thereby eliminating

all risk of loss by breakage in transportation or general rough handling. They have to be sawed in two. Each side of the board is adapted to different purposes thus having a double advantage over any other make. Three plants are now in operation to meet a growing demand.

A COMPLETE PLANT CAN BE INSTALLED AT A SMALL COST as the Rader apparatus is licensed at a very low price and only a very small space is required for its operation. The device makes boards from $\frac{1}{4}$ to 1 inch in thickness.

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with the exception of the New England and Middle Atlantic states which have already been secured by one of the largest plaster manufacturing companies in the East.

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Strong
Uniform
Fine Ground

RETARDER

We are the oldest Retarder firm in the United States, and above is our motto. New fire-proof plant and prompt service.

FREE SAMPLE ON REQUEST

Chemical Stucco Retarder Co.

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INCORPORATED 1895

RETARDER UNIFORM AND STRONG

Suitable for all kinds of Stucco and Plaster. Write for sample.

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Ask your architect to specify The Zimmerman Patent Metal Base and Ventilator to prevent your porch columns and floor from rotting. Send for circular A. Thousands in use.



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Our electrically equipped mines and mills are now in operation with a capacity of 300 tons per day, and we assure you of prompt service.



We Manufacture Stucco,
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The Empire Gypsum Company's new mill, with capacity of 200 tons daily, is in operation and they are prepared to promptly furnish the best quality of Empire Stucco, Empire Neat Plaster, Reliance Wood Fiber Wall Plaster and Excelsior Wall Plaster Sanded.

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PLYMOUTH CEMENT AND WOOD FIBER PLASTER

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Is Manufactured Only by
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UP-TO-THE-MINUTE PLASTER MAKERS

**Works Fine. Try It
You Will Like It**

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Join the Business Expansion Club!

FOR the last month or so in these pages, we have been talking Optimism—and our business justified it. Now we go farther—we are urging Business Expansion, and again, our business justifies it.

There is no "boom"—and we don't want it, nor do you. Rather, the sane, sound, gradual and healthy development of natural business. That's the kind of business expansion that **endures**.

Doubtless, the fast growing recognition of the Superior Quality, Uniformity and Reliability of the

U. S. G. Brands of Hard Plaster

accounts for a goodly percentage of the satisfactory business conditions obtaining with us at this time—as well as the general improvement in building activity.

Doubtless, too, the Superior Order of U. S. G. Service has attracted its due share of the increased business.

It has taken Faith, Courage and Purpose, to Maintain our Ideals of Quality, both in Materials and Service; but that is Our Idea of promoting business expansion—and **It Has Paid!**

Our business expansion has compelled the recent addition to our already large equipment, of

Another New Plaster Plant

at Rapid City, South Dakota—this besides the Big New Mill and Warehouse we opened on July 15th at Eldorado, Okla.

We are prepared now, as never before, to give Our Dealers in every section of the country, an **Ideal Service**. From and to almost every point of the compass, we can now make Prompt and Immediate shipments. Our Policy is to **Give the Dealer What he Wants, When he Wants it.**

What are **you** doing to promote Business Expansion? Let us help **your** business to expand. Look over your Stock—be generous to yourself and your trade—make up an Order—Try us out! Test our Service, and our Co-Operation. Join now! Address our nearest office.

United States Gypsum Company

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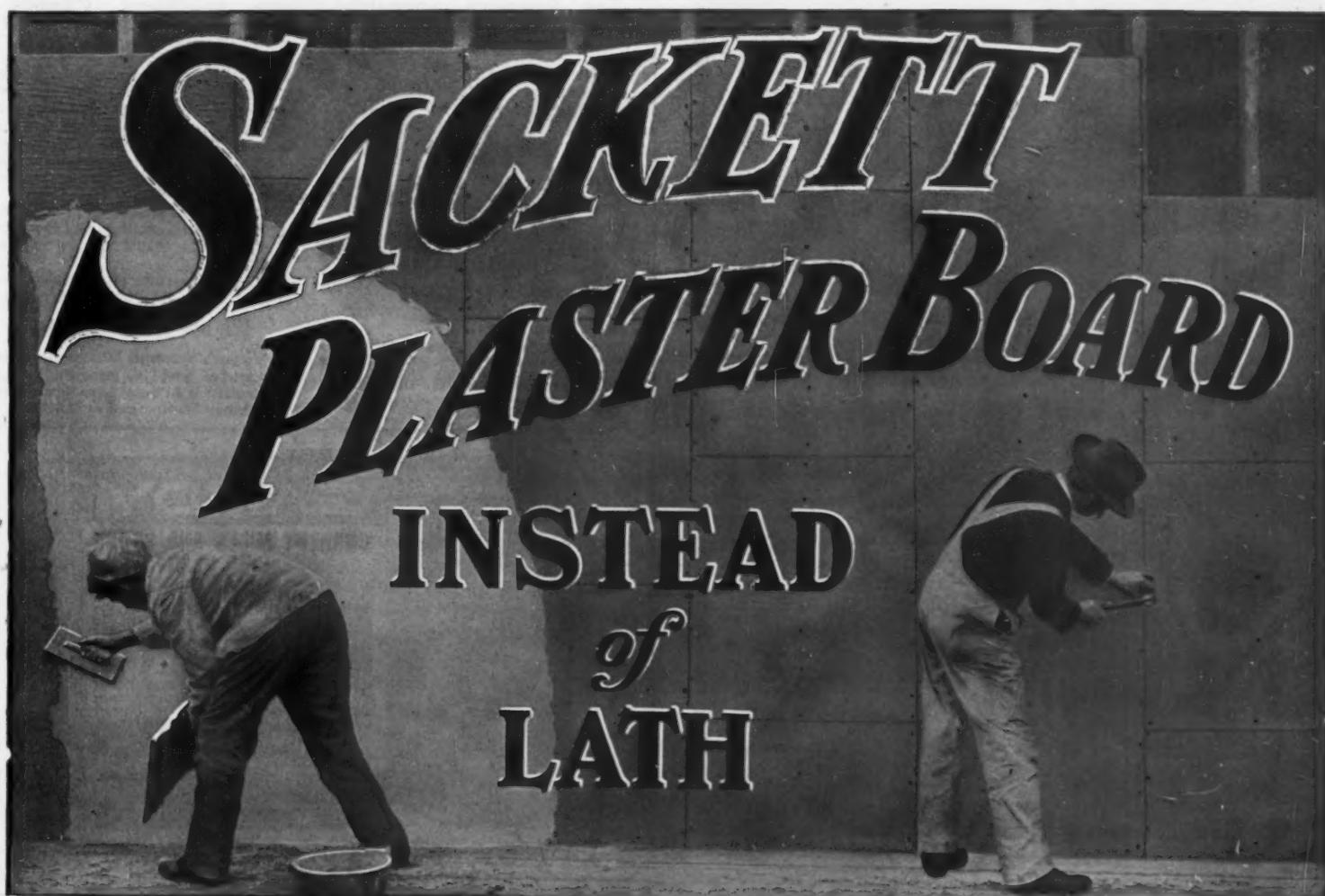
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SACKETT PLASTER BOARDS have been successfully used since 1891 in thousands of buildings of all classes, including small cottages, prominent hotels, costly residences, churches and theaters.

Walls and ceilings of Sackett Plaster Boards will be DRY AND READY IN HALF THE TIME required when lath is used, as less than half the quantity of water is needed.

Less moisture means less damage from warped and twisted trim and woodwork.

Their superior insulating qualities make warmer houses with less fuel. The first cost is no more than good work on wood lath, and less than on metal lath.

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HOTEL GRISWOLD, NEW LONDON—14½ acres of Sackett Plaster Board used in its construction

—R. W. GIBSON, ARCHITECT.



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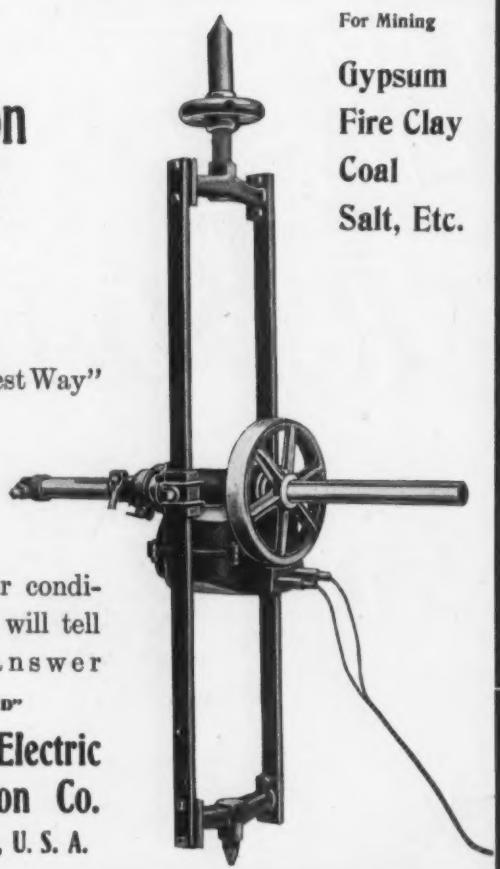
The Scranton Electric Drill

"The Cheapest Way"

Tell us your condition and we will tell you the answer

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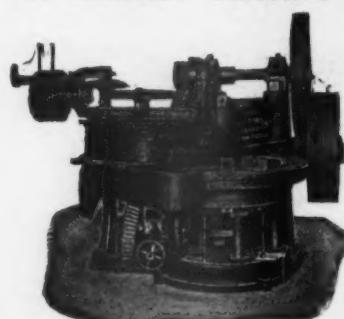
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For Mining
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We produce results, because we are the oldest practical Sand-Lime engineering company doing business in the United States, and we deny contradiction. Incorporated April 1902.

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CURRENT MILLS AND STONE DRESSING PLANTS



are coming more and more to use GANDY RED STITCHED COTTON DUCK BELTS. No other stands the grit and dust so long and well. It seems only to toughen them, so that their straight true running and great tractive powers are fully realized under what, for other belts, is most destructive conditions. Cost but $\frac{1}{4}$ that of leather. Our free booklet—"Experiences with Gandy" gives the opinion of cement men and quarry men who use them. Write for it. (Gandy Belt Dressing gives the last touch of excellence to Gandy Belts.)

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HOWELL'S Celebrated Ball Bearing Heavy Geared Post Drills

For boring anything that an Auger will penetrate.

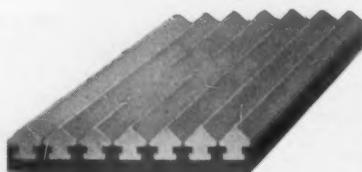
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A Tempered Steel Jaw Plate for Blake Type Crushers



Canda Tempered Steel Crusher Jaw Plate

Patented March 31, 1908

CHROME STEEL WORKS

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The Canda Tempered Steel Jaw Plate for Blake Crushers is composed of Forged and Rolled Chrome Steel Bars, cast-welded and also mechanically interlocked into a backing of tough steel—and the wearing face is tempered to extreme hardness. We are equipped to supply both corrugated and smooth face plates for all sizes and makes of Blake Crushers. The Canda method of cast-welding forged and tempered steel bars into a mild and tough Steel Backing, is adapted also to the construction of Cone Heads for Gyratory Crushers, Segments for Corrugated Rolls, etc., etc. Our products in this line are sold with our special guarantee that they *will wear longer, give better satisfaction and, at our price, prove more economical than any others now on the market.*

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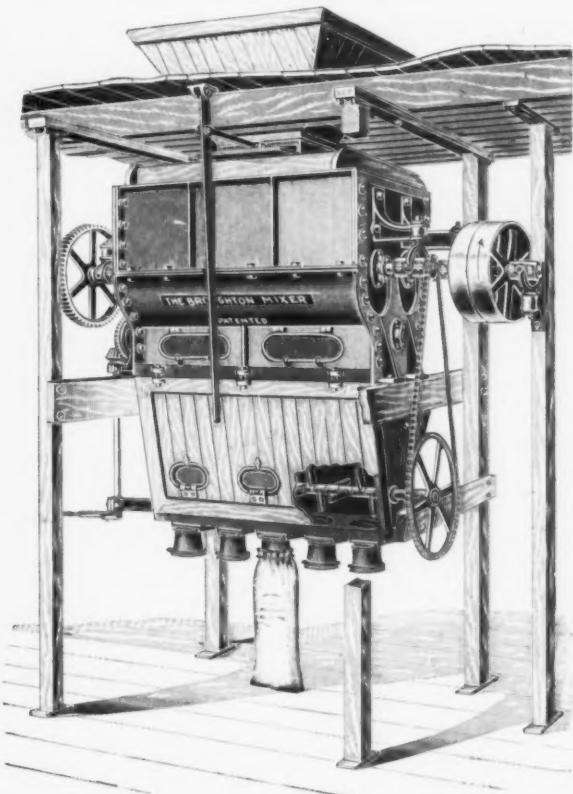
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The most thorough and efficient
Mixers of Plaster, Cement and
Dry Materials. Send for Circular.

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OUR Sand-Lime Brick Machinery is at least a little better than any other. We have testimonials to show it. We build it all in our own factory and are sure of its quality. We are the only firm doing this. We will design and equip your entire plant or will sell you parts of your equipment. Our catalog describing and illustrating our full line will be sent upon request.

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Everything we sell we make. We therefore know its quality to be right.

**The American Clay
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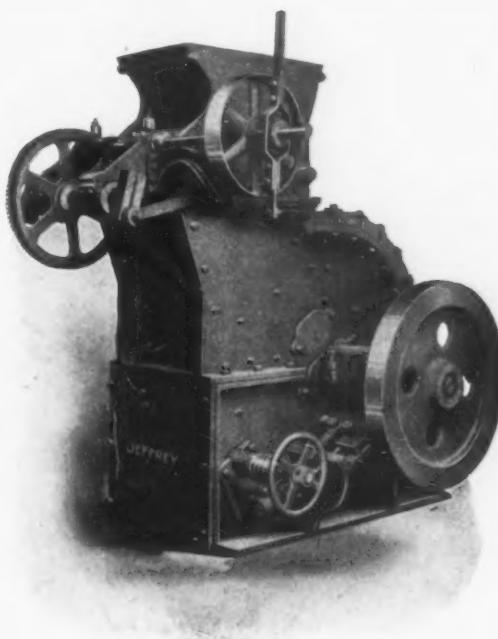
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Equipped
with
Automatic
Feed,
Worm Gear
and
Screw
Lowering
Device.

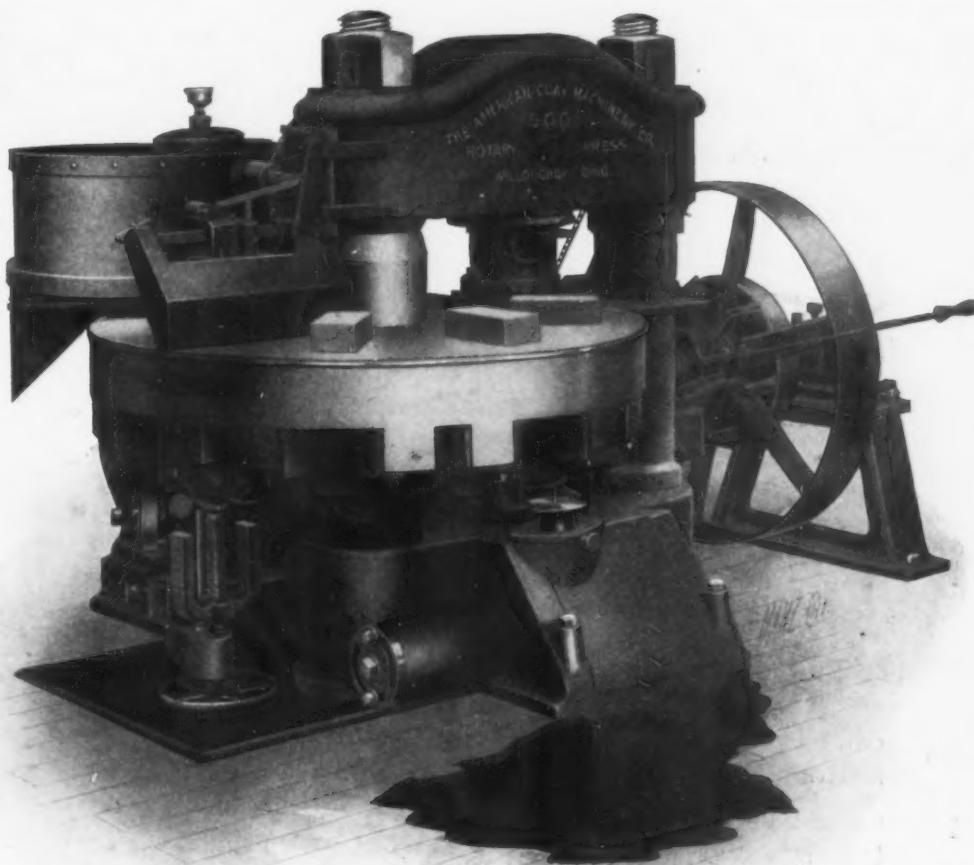
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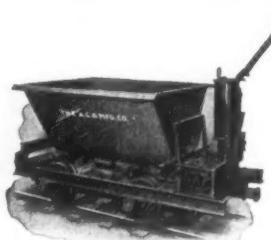


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THEY ARE BUILT OF

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